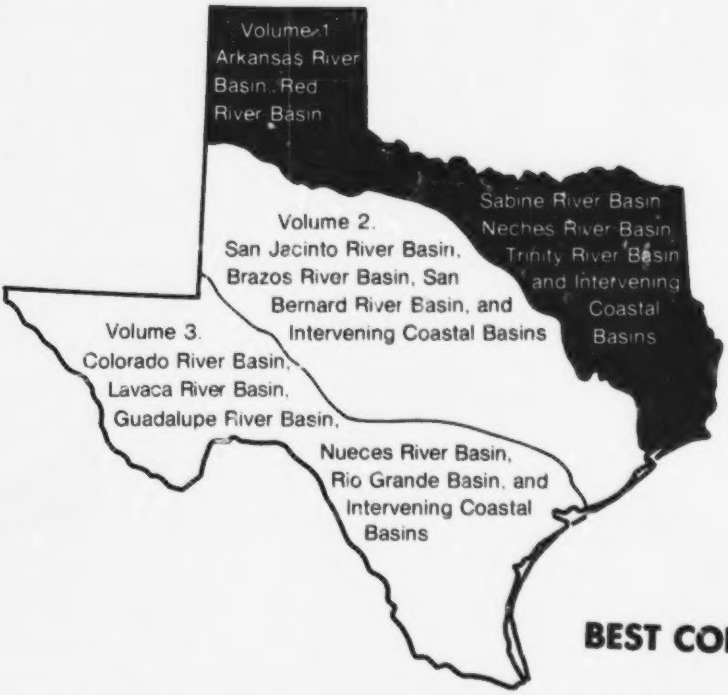
I19.53/2: TX-86-1

619-E 43

Water Resources Data
Texas
Water Year 1986

Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin and Intervening Coastal Basins


Volume 1
Arkansas River Basin, Red River Basin
Sabine River Basin
Neches River Basin
Trinity River Basin
and Intervening Coastal Basins
Volume 2.
San Jacinto River Basin,
Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins
Volume 3.
Colorado River Basin,
Lavaca River Basin,
Guadalupe River Basin,
Nueces River Basin,
Rio Grande Basin, and Intervening Coastal Basins

BEST COPY AVAILABLE

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TX-86-1
Prepared in cooperation with the State of Texas
and with other agencies

COMPLETED

CALENDAR FOR WATER YEAR 1986

1985

OCTOBER

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

NOVEMBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

DECEMBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

1986

JANUARY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

FEBRUARY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

MARCH

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

APRIL

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

MAY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JUNE

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

JULY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

AUGUST

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

SEPTEMBER

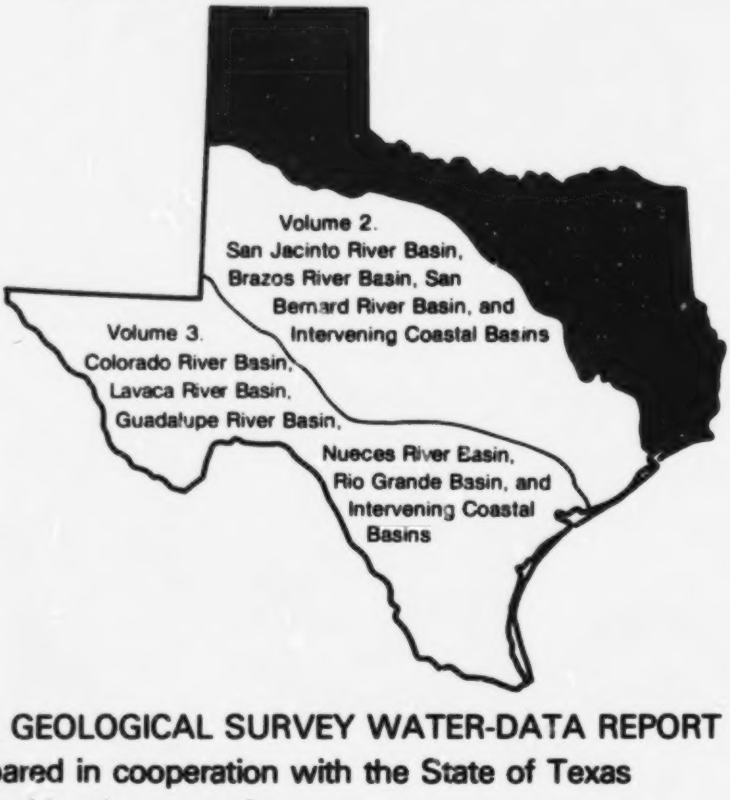
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

U S DEPARTMENT OF THE INTERIOR
March 3 1849

Water Resources Data
Texas
Water Year 1986

Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin and Intervening Coastal Basins

by H.D. Buckner, E.R. Carrillo, and H.J. Davidson


Volume 2.
San Jacinto River Basin,
Brazos River Basin, San
Bernard River Basin, and
Intervening Coastal Basins
Volume 3.
Colorado River Basin,
Lavaca River Basin,
Guadalupe River Basin,
Nueces River Basin,
Rio Grande Basin, and
Intervening Coastal
Basins

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TX-86-1
Prepared in cooperation with the State of Texas
and with other agencies

BEST COPY AVAILABLE

UNITED STATES DEPARTMENT OF THE INTERIOR

DONALD PAUL HODEL, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For additional information write to
District Chief, Water Resources Division
U.S. Geological Survey
300 East 8th Street
Austin, Texas 78701

1987

Preface

This volume of the annual hydrologic data report of Texas is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. Records of streamflow and quality-of-water data required to provide the hydrologic information needed by State, local and Federal agencies, and the private sector for developing and managing land and water resources in Texas are contained in 3 volumes:

Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin, and intervening and adjacent Coastal Basins

Volume 2. San Jacinto River Basin, Brazos River Basin, San Bernard River Basin, and intervening Coastal Basins

Volume 3. Colorado River Basin, Lavaca River Basin, Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and intervening Coastal Basins

This report is the culmination of a concerted effort by dedicated personnel of the Texas District, U.S. Geological Survey, who collected, compiled, analyzed, verified, and organized the data, typed, edited, and assembled the report, and who assured that the information contained here is accurate, complete, and adheres to Geological Survey policy and established guidelines.

This report was prepared in cooperation with the State of Texas and other agencies under the supervision of C. W. Boning, District Chief.

CONTENTS

Page

Preface.......... iii
List of gaging stations, in downstream order, for which records are published.......... v
Introduction.......... 1
Cooperation.......... 2
Hydrologic conditions.......... 3
    Streamflow.......... 3
    Water quality.......... 5
Special networks and programs.......... 7
Explanation of the records.......... 8
    Station identification numbers.......... 8
        Downstream order numbering.......... 8
    Records of stage and water discharge.......... 9
        Data collection and computation.......... 9
        Data presentation.......... 10
        Identifying estimated daily discharge.......... 13
        Accuracy of the records.......... 13
        Other records available.......... 13
    Records of surface-water quality.......... 14
        Classification of records.......... 14
        Arangement of records.......... 14
        On-site measurements and sample collection.......... 14
        Water temperature.......... 15
        Sediment.......... 15
        Laboratory measurements.......... 16
        Data presentation.......... 16
        Remark codes.......... 17
Access to WATSTORE data.......... 18
Definition of terms.......... 18
Publications of techniques of water-resources investigations.......... 29
Gaging-station records.......... 31
Discharge at partial-record stations and miscellaneous sites.......... 459
    Low-flow partial-record stations.......... 459
    Crest-stage partial-record stations.......... 460
Index.......... 461

ILLUSTRATION

Figure 1. Area of Texas covered by volume 1 and location of selected streamflow and water-quality stations in volume 1.......... 4
2. Comparison of monthly mean discharge at four long-term representative gaging stations during the 1986 water year with median of the monthly mean discharge for the period 1951-80.......... 6

GAGING STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

Page

LOWER MISSISSIPPI RIVER BASIN
ARKANSAS RIVER BASIN
Arkansas River:
Canadian River at Logan, NM.. 31
Revuelto Creek near Logan, NM.. 32
Canadian River near Amarillo... 33
Lake Meredith near Sanford... 37
Dixon Creek near Borger.. 38
Canadian River near Canadian... 39
North Canadian River:
Wolf Creek at Lipscomb... 42
RED RIVER BASIN
Prairie Dog Town Fork Red River near Wayside............................. 43
Tule Creek:
MacKenzie Reservoir near Silverton....................................... 46
Tule Creek near Silverton.. 47
Prairie Dog Town Fork Red River near Childress........................... 48
Red River near Quanah.. 51
Groesbeck Creek at State Highway 6 near Quanah........................... 52
Salt Fork Red River:
Greenbelt Lake near Clarendon.. 53
Salt Fork Red River near Wellington...................................... 54
Salt Fork Red River at Mangum, OK.. 58
North Fork Red River near Shamrock....................................... 59
Sweetwater Creek near Kelton.. 60
Pease River near Childress... 61
Red River near Burkburnett... 62
North Wichita River (head of Wichita River):
Bluff Creek:
Truscott Brine Lake near Truscott....................................... 65
North Wichita River near Truscott.. 70
South Wichita River at dam near Guthrie................................ 76
South Wichita River below dam near Guthrie.............................. 81
South Wichita River near Benjamin....................................... 82
Wichita River:
Lake Kemp near Mabelle... 87
Wichita River near Mabelle... 88
Diversion Lake:
South Side Canal near Dundee.. 91
Beaver Creek near Electra... 92
Wichita River at Wichita Falls... 93
Wichita River near Charlie... 97
North Fork Little Wichita River:
Lake Kickaoo near Archer City.. 98
Little Wichita River near Archer City..................................... 99
Lake Arrowhead near Henrietta.. 100
Little Wichita River above Henrietta...................................... 101
East Fork Little Wichita River near Henrietta........................... 102
Red River near Terral, OK.. 103
Moss Lake near Gainesville... 106

GAGING STATIONS IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

Page

LOWER MISSISSIPPI RIVER BASIN--Continued
RED RIVER BASIN--Continued

Red River near Gainesville 107
Lake Texoma near Denison 111
Red River at Denison Dam Near Denison 112
  Pat Mayse Lake near Chicota 116
  Sanders Creek near Chicota 117
Red River at Arthur City 118
Red River near De Kalb 119
Red River at Index, AR 123
  South Sulphur River (head of Sulphur River) near Commerce 124
  South Sulphur River near Cooper 125
    North Suphur River near Cooper 129
  Sulphur River near Talco 132
    White Oak Creek near Talco 136
  Wright Patman Lake near Texarkana 139
  Sulphur River near Texarkana 140
  Big Cypress Creek near Winnsboro 141
  Lake Cypress Springs near Mount Vernon 142
    Brushy Creek at Scroggins 143
  Lake Bob Sandlin near Mount Pleasant 144
  Big Cypress Creek near Pittsburg 145
    Ellison Creek Reservoir near Lone Star 149
  Lake O' the Pines near Jefferson 150
  Big Cypress Creek near Jefferson 151
    Black Cypress Bayou at Jefferson 152
    Little Cypress Creek near Ore City 153
    Little Cypress Creek near Jefferson 154
    Frazier Creek near Linden 160

WESTERN GULF OF MEXICO BASINS
SABINE RIVER BASIN
Sabine River:

Cowleech Fork Sabine River at Greenville 161
  South Fork Sabine River near Quinlan 162
Lake Tawakoni near Wills Point 163
Sabine River near Wills Point 164
Sabine River near Mineola 165

Lake Fork Creek:

    Burke Creek near Yantis 169
  Lake Fork Reservoir near Quitman 170
  Lake Fork Creek near Quitman 171

Big Sandy Creek:

  Lake Winnsboro near Winnsboro 174
  Big Sandy Creek near Big Sandy 175
Sabine River near Gladewater 184
Sabine River above Longview 185
Sabine River near Beckville 186
  Martin Lake near Tatum 190
  Martin Creek near Tatum 191

GAGING STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

Page

WESTERN GULF OF MEXICO BASINS--Continued
SABINE RIVER BASIN--Continued

Sabine River at Logansport, LA 192
Toledo Bend Reservoir near Burkeville 193
Sabine River at Toledo Bend Reservoir near Burkeville 194
Sabine River near Burkeville 196
Sabine River near Bon Wier 200
  Big Cow Creek near Newton 202
Sabine River near Ruliff 203
  Cow Bayou near Mauriceville 207

NECHES RIVER BASIN

Neches River:
  Kickapoo Creek near Brownsboro 208
  Lake Athens near Athens 209
Lake Palestine near Frankston 210
Neches River near Neches 211
  Piney Creek near Groveton 217
Neches River near Rockland 218
  Angelina River:
    East Fork Angelina River near Cushing 220
    Mud Creek:
      Prairie Creek:
      Lake Tyler near Whitehouse 221
  Angelina River near Alto 222
  Lake Nacogdoches near Nacogdoches 223
  Angelina River:
    Bayou LaNana at Nacogdoches 224
  Sam Rayburn Reservoir near Jasper 225
B. A. Steinhagen Lake at Town Bluff 226
Neches River at Town Bluff 227
Neches River at Evadale 229
  Village Creek near Kountze 233
  Pine Island Bayou near Sour Lake 234

TAYLOR BAYOU BASIN

Taylor Bayou near LaBelle 239
  Hillebrandt Bayou near Lovell Lake 240

TRINITY RIVER BASIN

West Fork Trinity River (head of Trinity River) near Jacksboro 241
Bridgeport Reservoir above Bridgeport 242
West Fork Trinity River at Bridgeport 243
  Big Sandy Creek near Bridgeport 244
West Fork Trinity River near Boyd 245
Eagle Mountain Reservoir above Fort Worth 246
Lake Worth above Fort Worth 247
West Fork Trinity River:
  Benbrook Lake near Benbrook 248
  Clear Fork Trinity River near Benbrook 249
  Clear Fork Trinity River at Fort Worth 250
West Fork Trinity River at Fort Worth 251
West Fork Trinity River at Beach Street, Fort Worth 252

GAGING STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

Page

WESTERN GULF OF MEXICO BASINS--Continued

TRINITY RIVER BASIN--Continued

West Fork Trinity River:

Village Creek at Kennedale.......... 261
Lake Arlington at Arlington.......... 263
West Fork Trinity River at Grand Prairie.......... 269
Big Bear Creek:
Trigg Branch at Dallas-Fort Worth Airport near Euless.......... 278
Mountain Creek at Venus.......... 279
Walnut Creek near Mansfield.......... 280
Joe Pool Lake near Duncanville.......... 282
Mountain Creek near Duncanville.......... 287
Mountain Creek Lake near Grand Prairie.......... 288
Mountain Creek at Grand Prairie.......... 289
Elm Fork Trinity River:
Isle du Bois Creek:
Jordan Creek:
Timber Creek near Collinsville.......... 290
Elm Fork Trinity River near Pilot Point.......... 291
Clear Creek near Sanger.......... 293
Little Elm Creek near Aubrey.......... 297
Pecan Creek near Aubrey.......... 303
Hickory Creek at Denton.......... 304
Lewisville Lake near Lewisville.......... 308
Elm Fork Trinity River near Lewisville.......... 322
Denton Creek near Justin.......... 326
Grapevine Lake near Grapevine.......... 327
Denton Creek near Grapevine.......... 336
Elm Fork Trinity River near Carrollton.......... 337
Trinity River:
Turtle Creek at Dallas.......... 338
Trinity River at Dallas.......... 339
Trinity River at Cedar Crest Boulevard, Dallas.......... 340
White Rock Creek at Greenville Avenue, Dallas.......... 348
Trinity River below Dallas.......... 349
Prairie Creek at U.S. Highway 175, Dallas.......... 358
East Fork Trinity River at McKinney.......... 359
Pilot Grove Creek near Blue Ridge.......... 361
Sister Grove Creek near Blue Ridge.......... 362
Wilson Creek at McKinney.......... 364
Lavon Lake near Lavon.......... 365
East Fork Trinity River near Lavon.......... 366
Rowlett Creek near Sachse.......... 367
Lake Ray Hubbard near Forney.......... 368
Duck Creek near Garland.......... 369
East Fork Trinity River near Forney.......... 370
East Fork Trinity River near Crandall.......... 376
Trinity River near Rosser.......... 378
Trinity River at Trinidad.......... 387
Cedar Creek near Kemp.......... 396

Page

WESTERN GULF OF MEXICO BASINS--Continued
TRINITY RIVER BASIN--Continued
Trinity River:
Cedar Creek:

Kings Creek near Kaufman.................................... 397
Cedar Creek Reservoir near Trinidad.................................... 398
Navarro Mills Lake near Dawson.................................... 399
Richland Creek near Dawson.................................... 400
Richland Creek near Richland.................................... 401

Chambers Creek:

Waxahachie Creek near Waxahachie.................................... 405
Mustang Creek near Ennis.................................... 406
Lake Clark Outflow near Ennis.................................... 407
Bardwell Lake near Ennis.................................... 408
Waxahachie Creek near Bardwell.................................... 409
Chambers Creek near Rice.................................... 410
Tehuacana Creek near Streetman.................................... 414
Catfish Creek near Tennessee Colony.................................... 415
Trinity River near Oakwood.................................... 416
Upper Keechi Creek near Oakwood.................................... 417
Trinity River near Crockett.................................... 418
Bedias Creek near Madisonville.................................... 427
Kickapoo Creek near Onalaska.................................... 436
Livingston Reservoir near Goodrich.................................... 437
Livingston Reservoir at outflow weir near Goodrich.................................... 444

Trinity River:

Long King Creek at Livingston.................................... 445
Trinity River near Goodrich.................................... 446
Menard Creek near Rye.................................... 447
Big Creek near Shepherd.................................... 449
Trinity River at Romayor.................................... 451
Trinity River at Liberty.................................... 456
CIWA Canal near Dayton.................................... 457

CEDAR BAYOU BASIN

Cedar Bayou near Crosby.................................... 458

WATER RESOURCES DATA - TEXAS, 1986

VOLUME 1

ARKANSAS RIVER BASIN, RED RIVER BASIN, SABINE RIVER BASIN, NECHES RIVER BASIN, TRINITY RIVER BASIN, AND INTERVENING AND ADJACENT COASTAL BASINS

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with Federal, State, and City agencies, obtains a large amount of data pertaining to the water resources of Texas each water year. Such data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in three volumes of this report series entitled "Water Resources Data - Texas."

This report series includes records of stage, discharge, and water quality of streams and canals; stage, contents, and water quality of lakes and reservoirs. Volume 1 contains records for water discharge at 139 gaging stations; stage only at 5 gaging station; stage and contents at 40 lakes and reservoirs; and water quality at 72 gaging stations. Also included are data for 13 partial-record stations. Additional water data were collected at 2 miscellaneous sites not involved in the systematic data-collection program. The data in this report represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating City, State, and Federal agencies in Texas.

This series of annual reports for Texas began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report was changed to its present format, with data on quantities and quality of surface water contained in each of three volumes.

Prior to introduction of this series and for several water years concurrent with it, water resources data for Texas were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 7 and 8." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from U.S. Geological Survey, Books and Open-File Reports, Federal Center, Bldg. 41, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Geological Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water Data Report TX-86-1." For archiving and general distribution, the reports for the 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or may be purchased on microfiche from the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including the current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (512) 482-5571.

COOPERATION

Federal agencies that assisted the Geological Survey in the collection of data in this report in the form of funds or services in 1986 are:

Corps of Engineers, U.S. Army.

International Boundary and Water Commission, United States and Mexico, U.S. Section.

U.S. Bureau of Reclamation.

Organizations that assisted in the collection of data in this report through joint-funding agreements through the Texas Water Development Board or through direct joint-funding agreements with the Geological Survey are:

Texas Water Development Board, C. E. Nemir, Executive Administrator; the cities of Abilene, Alice, Arlington, Austin, Carrollton, Corpus Christi, Dallas, El Paso, Gainesville, Garland, Georgetown, Graham, Houston, Lubbock, Nacogdoches, Runaway Bay, San Angelo, San Antonio, and Wichita Falls; Athens Municipal Water Authority; Bexar, Medina, and Atascosa Counties Water Control and Improvement District No. 1; Bistone Municipal Water Supply District; Brazos River Authority; Coastal Industrial Water Authority; Colorado River Municipal Water District; Dallas County; Dallas Public Works Department; Dallas/Fort Worth Airport; Dallas Utilities Water Department; Edwards Underground Water District; Fort Bend County, Franklin County Water District; Galveston County; Greenbelt Municipal and Industrial Water Authority; Guadalupe-Blanco River Authority; Harris County Flood Control District; Harris-Galveston Coastal Subsidence District; Lower Colorado River Authority; Lower Neches Valley Authority; MacKenzie Municipal Water Authority; North Central Texas Municipal Water Authority; Northeast Texas Municipal Water District; Orange County; Pecos River Commission; Red Bluff Water Power Control District; Reeves County Water Improvement District No. 1; Sabine River Authority of Texas; Sabine River Compact Administration; San Antonio City Public Service Board; San Antonio City Water Board; San Antonio River Authority; San Jacinto River Authority; Tarrant County Water Control and Improvement District No. 1; Texas Parks and Wildlife, Titus County Fresh Water Supply District No. 1; Trinity River Authority; Upper Guadalupe River Authority; Upper Neches River Municipal Water Authority; Upper Trinity Basin Water Quality Compact; West Central Texas Municipal Water District; Wichita County Water Improvement District No. 2; Willow Fork Drainage District; and Wood County.

HYDROLOGIC CONDITIONS

Large variations in precipitation, runoff, and streamflow characterize the usual hydrologic conditions in Texas. In the eastern part of the State, streams generally are deep with wide alluvial flood plains, and streamflow is perennial. In the western part of the State, streams generally flow through arroyos, and streamflow principally is ephemeral.

Precipitation during the 1986 water year generally was in the normal range except for the period November through April when drier than usual conditions existed in most areas. January 1986 was extremely dry, with many stations reporting no precipitation during the month. In June, extensive precipitation occurred in parts of south-central Texas. San Antonio received 11.95 inches (6.30 inches in a 24-hour period), setting a new record for the month of June. Unusual weather features for the year included an uncommonly warm winter and the scarcity of tropical storms, which can produce intense precipitation along their paths. "Bonnie", the only tropical storm to enter the State during the year, yielded only moderate precipitation along its path across southeast Texas in late June.

Conservation storage in 71 selected reservoirs throughout the State, with a combined conservation capacity of 31,987,890 acre-feet, increased from 75 percent at the end of September 1985 to 85 percent at the end of September 1986. Records from these 71 reservoirs indicate that contents increased in 62, decreased in 7, and remained the same in 2.

The area for which water-resources data are presented in volume 1 includes the Texas Panhandle and extends across south-central and eastern Texas to southeastern Texas. Normal annual precipitation in this area ranges from about 17 inches in the western part of the Texas Panhandle to more than 56 inches in the extreme southeastern part of the State. Annual runoff ranges from less than 1.0 inch in parts of the Panhandle to as much as 15 inches in southeastern Texas. A map of Texas indicating the area covered by volume 1 and the location of selected streamflow and water-quality stations in the area is shown in figure 1.

Streamflow

Streamflow in north Texas, including the Panhandle, was in the normal range for the year, with the exception of short periods in January and March when flow rates were less than normal, and most of June when flow rates were greater than normal. For streams in east and southeast Texas, streamflow was greater than normal in October, receding to the normal range by early January and to less than normal by early April. Following intense rainstorms in late May and early June, streamflow increased in east and southeast Texas and remained in the greater than normal to normal range for the remainder of the year.

Streamflow at the hydrologic index station Neches River near Rockland was excessive (within the highest 25 percent of record) during October through December and June and July. Streamflow at this station was deficient (within the lowest 25 percent of record) during April and was normal during the remainder of the year. A comparison of streamflow for the 1986 water year with streamflow for the period of record at five selected stations (fig. 1) for which data are included in volume 1 is presented in the following table:

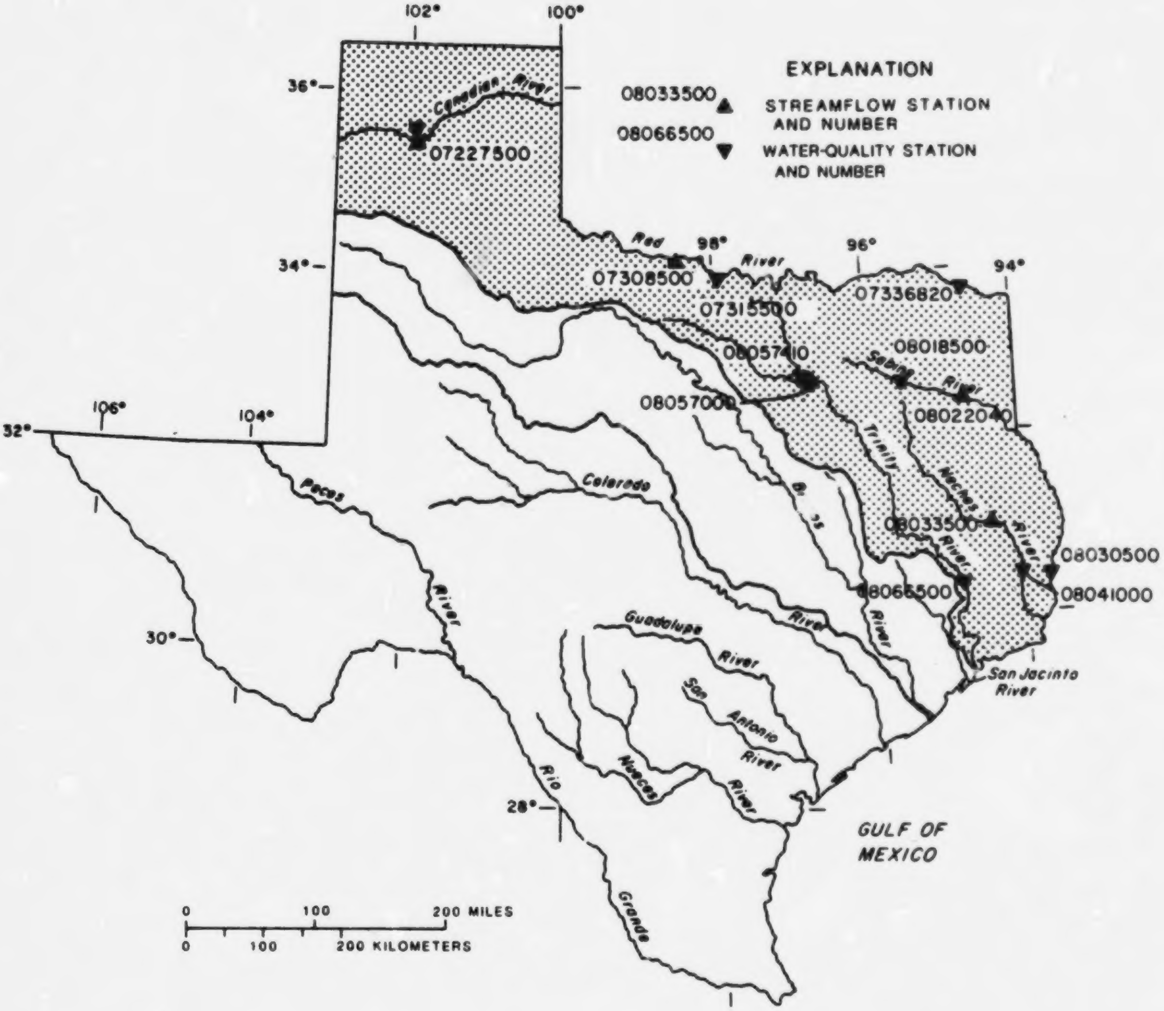

102°
100°
36°
34°
32°
30°
28°
106°
104°
98°
96°
94°
EXPLANATION
08033500 ▲ STREAMFLOW STATION AND NUMBER
08066500 ▼ WATER-QUALITY STATION AND NUMBER
Canadian River
07227500
Red River
07308500
07315500
07336820
08057410
08018500
08057000
Sabine River
08022040
Trinity
Neches River
Brazos River
08033500
08030500
08066500
08041000
San Jacinto River
Colorado River
Pecos River
Guadalupe River
San Antonio River
Nueces River
Rio Grande
GULF OF MEXICO
0 100 200 MILES
0 100 200 KILOMETERS

Figure 1.--Area of Texas covered by volume 1 (shaded) and location of selected streamflow and water-quality stations in volume 1.

BEST COPY AVAILABLE

Station no. and name		Discharge during 1986 water year (cubic feet per second)			Discharge during period of record (cubic feet per second)		
		Max.	Min.	Avg.	Max.	Min.	Avg.
07227500	Canadian River near Amarillo, Tex.	13,500	0	112	135,000	0	316 (1925, 1939-86)
07308500	Red River near Burkburnett, Tex.	34,600	67	1,271	166,000	0	883 (1961-86)
08022040	Sabine River at Beckville, Tex.	14,100	24	3,082	123,000	2.4	2,229 (1961-86)
08033500	Neches River near Rockland, Tex. 1/	16,200	80	2,839	49,800	1.6	1,982 (1962-86)
08057000	Trinity River at Dallas, Tex.	19,600	239	1,972	184,000	1.2	1,527 (1904-86)

1/ Hydrologic index station.

Streamflow also was variable at the other three hydrologic index stations in the State. Monthly mean discharges for the four hydrologic index stations in the State are plotted against the median of the long-term monthly means in figure 2. Streamflow in the North Bosque River near Clifton was excessive in June and September, deficient in December, January, March, and April, and near normal the remainder of the year. The North Concho River near Carlsbad had excessive runoff in October, January through March, June, and August through September, and normal the remainder of the year. Streamflow in the Guadalupe River near Spring Branch was excessive during the year except for the months of March through May and August when flow rates were near normal.

Conservation storage in a selected group of 31 reservoirs in this area (volume 1) of the State, with a total combined conservation capacity of 19,114,840 acre-feet, increased from 83 percent at the end of September 1985 to 92 percent at the end of September 1986. Records from the 31 reservoirs indicate that contents increased in 28, decreased in 1, and remained the same in 2 during the 1986 water year.

Water Quality

Dissolved-solids concentrations in most streams in the State are inversely related to streamflow. During years when precipitation and runoff are deficient, streamflow commonly is much more mineralized than during years when precipitation and runoff are normal or excessive. However, for streams where discharge is controlled by reservoirs, the mineralization of the water may remain relatively constant despite large fluctuations in precipitation and runoff.

Records of discharge-weighted-average concentrations of dissolved solids for the 1986 water year are compared with those for the 1982-86 water years for selected long-term daily or continuous-record stations in the Arkansas, Red, Sabine, Neches, and Trinity River basins in the following table:

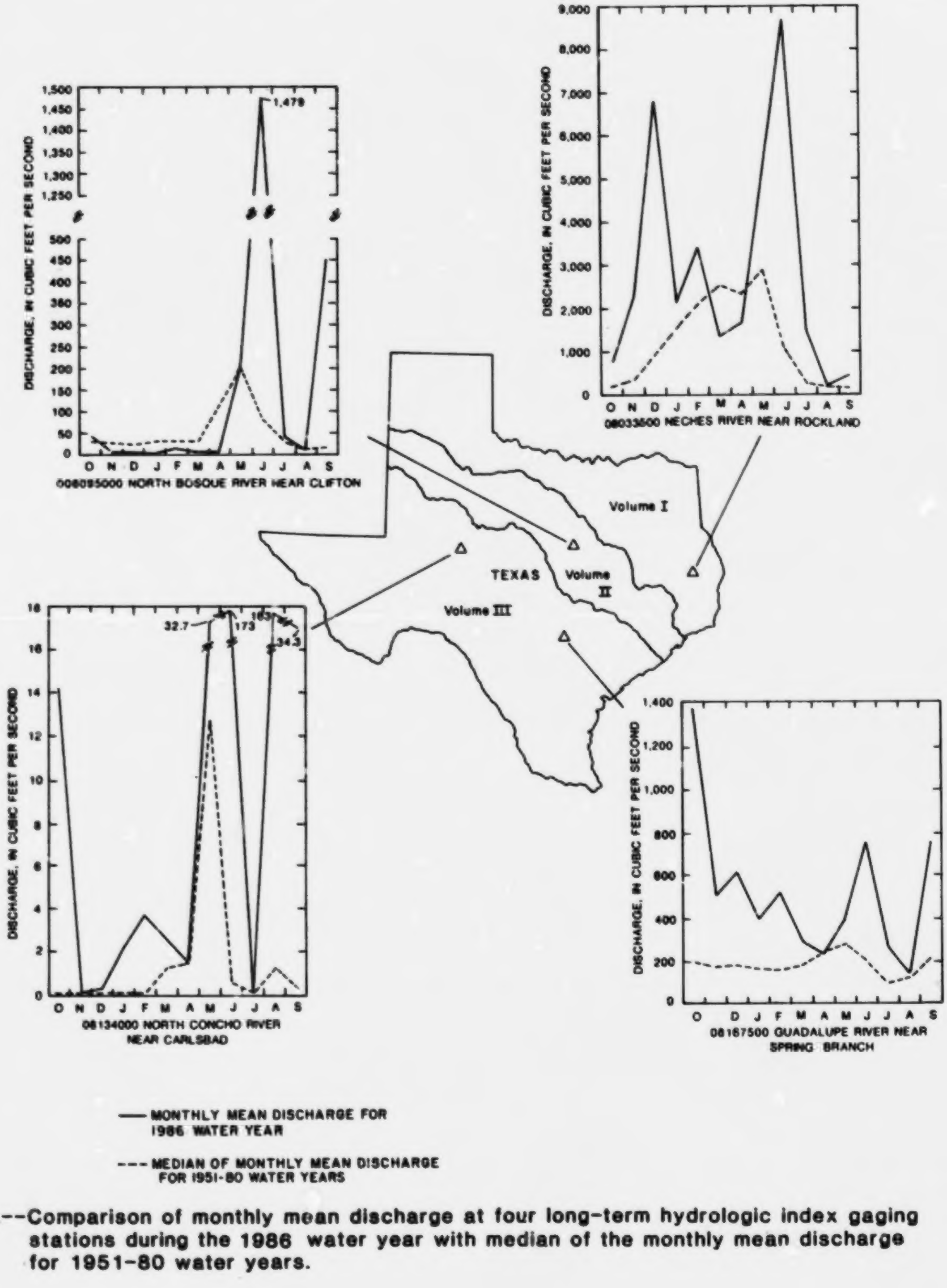


Figure 2.--Comparison of monthly mean discharge at four long-term hydrologic index gaging stations during the 1986 water year with median of the monthly mean discharge for 1951-80 water years.

BEST COPY AVAILABLE

Station no. and name		Mean discharge (cubic feet per second)		Discharge-weighted-average concentration of dissolved solids (milligrams per liter)	
		1986	82-86	1986	1982-86
Arkansas River basin					
07227500	Canadian River near Amarillo, Tex.	112	130	816	806
Red River basin					
07315500	Red River near Terral, Okla.	2,532	2,601	1,500	1,220
07336820	Red River near DeKalb, Tex.	14,030	15,560	390	365
Sabine River basin					
08018500	Sabine River near Mineola, Tex.	1,089	730	109	124
08030500	Sabine River near Ruliff, Tex.	7,515	7,510	86	72
Neches River basin					
08041000	Neches River at Evadale, Tex.	6,208	5,759	89	84
Trinity River basin					
08057410	Trinity River below Dallas, Tex.	2,320	2,766	271	252
08066500	Trinity River at Romayor, Tex.	10,400	8,044	186	187

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

Radiochemical Program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 1986 water year that began October 1, 1985, and ended September 30, 1986. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, and water-quality data for surface water. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and, in Texas, for surface-water stations where only miscellaneous measurements are made.

Downstream Order Numbering

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indention in the "List of Stations" in the front of this report. Each indention represents one rank. This downstream order and system of indention shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station, such as 08057000, which appears just to the left of the station name, includes the two-digit Part number "08" plus the six-digit downstream-order number "057000." The Part number designates the major river basin; for example, Part "08" is the Western Gulf of Mexico basin.

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals. Measurements of discharge are made with current meters using methods adopted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6.

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow over dams or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

At some stream-gaging stations, the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

In computing records of lake or reservoir contents, it is necessary to have available from surveys, curves or tables defining the relationship of stage and content. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relationship. Even when this is done, the contents computed may become increasingly in error as the lapsed time since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data presentation

The records published for each gaging station consist of two parts, the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location; period of record; average discharge; historical extremes; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not and whose location was such that records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

AVERAGE DISCHARGE.--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for those stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at a station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water years of record have accumulated following the development. The median of yearly mean discharges also is given under this heading for stations having 10 or more water years of record, if the median differs from the average given by more than 10 percent.

EXTREMES FOR PERIOD OF RECORD.--Extremes may include maximum and minimum stages and maximum and minimum discharges or content. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage gage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error. Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the offices whose addresses are given on the back of the title page of this report to determine if the published records were ever revised after the station was discontinued. Of course, if the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN."), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversions or reservoir contents are given.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing a table footnote, "e Estimated," or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records depends primarily on: (1) The stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of their true values; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft^3/s; to the nearest tenth between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures for more than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables is on file in the Texas District. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the offices whose addresses are given on the back of the title page of this report.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications.

A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be once or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station where random samples are collected to give better areal coverage to define water-quality conditions in the river basin. A careful distinction needs to be made between "continuing records", as used in this report, and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-site Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory.

Procedures for on site measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed under "PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS" which appears at the end of the introductory text. Detailed information on collecting, treating, and shipping samples may be obtained from the Texas Office of the Central Regional Office.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals depends on flow conditions and other factors which must be evaluated by the collector.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the Texas District Office whose address is given on the back of the title page of this report.

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the Texas District Office.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly).

The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the Geological Survey laboratory in Arvada, Colorado. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor temperature record, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

The following remark codes may appear with the water-quality data in this report:

PRINTED OUTPUT	REMARK
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

ACCESS TO WATSTORE DATA

The National WATer Data STOrage and REtrieval System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from the District office (see address given on the back of the title page).

General inquiries about WATSTORE may be directed to:

Chief Hydrologist
U.S. Geological Survey
437 National Center
Reston, Virginia 22092

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System (SI) Units on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Bacteria are microscopic unicellular organisms, typically spherical, rod-like, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shapped bacteria which ferment lactose with gas formation within 24 hours at 35°C. In the laboratory these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C plus or minus 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water In the laboratory they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5°C plus or minus 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestine of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours hours at 35°C plus or minus 1.0°C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square mile (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 105°C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cubic-foot-per-second day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,445 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll *a* and *b* are the two most common green pigments in plants.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic foot per second (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic feet per second per square mile [$(ft^3/s)/mi^2$] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

> *Mean discharge* (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.
>
> *Instantaneous discharge* is the discharge at a particular instant of time.

Dissolved refers to that material in a representative water sample which passes through a 0.45 µm membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = - \sum_{i=1}^{s} \frac{n_i}{n} \log_2 \frac{n_1}{n}$$

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate .+($CaCO_2$).

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram (µg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (UG/L, µg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L and is based on the mass of dry sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentaiton methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay..........	0.00024 - 0.004	Sedimentation
Silt..........	.004 - .062	Sedimentation
Sand..........	.062 - 2.0	Sedimentation or sieve
Gravel........	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass, or volume.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [mg C/(m^2.time)] for periphyton and macrophytes and [mg C/(m^3.time)] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [mgO /(m^2.time)] for periphyton and macrophytes and [mgO /(m^3.time)] for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

Runoff in inches (IN., in.) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry mass or volume, that passes a section during a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water, per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is the part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is associated with the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 µm membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 µm membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchial scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata, is the following:

Kingdom	Animal
Phylum	Arthropoda
Class	Insecta
Order	Ephemeroptera
Family	Ephemeridae
Genus	Hexagenia
Species	Hexagenia limbata

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1986, is called the "1986 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WSP is used as an abbreviaton for "Water-Supply Paper" in reference to previously published reports.

PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 604 South Pickett St., Alexandria, VA 22304 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

1-D1. *Water temperature-influential factors, field measurements, and data presentation,* by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 p.

3-A1. *General field and office procedures for indirect measurements,* by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 p.

3-A2. *Measurement of peak discharge by the slope-area method,* by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 p.

3-A3. *Measurement of peak discharge at culverts by indirect methods,* by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 p.

3-A4. *Measurement of peak discharge at width contractions by indirect methods,* by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 p.

3-A5. *Measurement of peak discharge at dams by indirect methods,* by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 p.

3-A6. *General procedure for gaging streams,* by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 p.

3-A7. *Stage measurements at gaging stations,* by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 p.

3-A8. *Discharge measurements at gaging stations,* by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 p.

3-A9. *Measurement of time of travel and dispersion in streams by dye tracing,* by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 p.

3-A10. *Discharge ratings at gaging stations,* by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 p.

3-A11. *Measurement of discharge by moving-boat method,* by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 p.

3-A13. *Computations of continuous records of streamflow,* by E. J. Kennedy: USGS-TWRI Book 3, Chapter A13, 1983. 53 p.

3-A14. *Use of flumes in measuring discharge,* by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 p.

3-A15. *Computation of water-surface profiles in open channels,* by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 p.

3-C1. *Fluvial sediment concepts,* by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 p.

3-C2. *Field methods for measurement of fluvial sediment,* by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 p.

3-C3. *Computation of fluvial-sediment discharge,* by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 p.

4-A1. *Some statistical tools in hydrology,* by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 p.

4-A2. *Frequency curves,* by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 p.

4-B1. *Low-flow investigations,* by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 p.

4-B2. *Storage analyses for water supply,* by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 p.

4-B3. *Regional analyses of streamflow characteristics,* by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 p.

5-A1. *Methods for determination of inorganic substances in water and fluvial sediments,* by M. W. Skougstad and others: USGS--TWRI Book 5, Chapter A1. 1979. 626 p.

5-A2. *Determination of minor elements in water by emission spectroscopy,* by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 p.

5-A3. *Methods for analysis of organic substances in water,* by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 p.

5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples,* edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 p.

5-A5. *Methods for determination of radioactive substances in water and fluvial sediments,* by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 p.

5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments,* by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 p.

5-C1. *Laboratory theory and methods for sediment analysis,* by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 p.

7-C3. *A model for simulation of flow in singular and interconnected channels,* by R. W. Schaffrannek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1983. 110 p.

8-A2. *Installation and service manual for U.S. Geological Survey manometers,* by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 p.

8-B2. *Calibration and maintenance of vertical-axis type current meters,* by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 p.

ARKANSAS RIVER BASIN

07227000 CANADIAN RIVER AT LOGAN, NM

LOCATION.--Lat 35°21'25", long 103°25'03", in NE1/4 NE1/4 sec.15, T.13 N., R.33 E., Quay County, Hydrologic Unit 1108000 on left bank 1,100 ft upstream from bridge on U.S. Highway 54, 0.7 mi south of Logan, 1.4 mi upstream from Chicago, Rock Island & Pacific Railroad Co. bridge, 2.0 mi downstream from Ute Dam, 4.3 mi upstream from Revuelto Creek, and at mile 672.0.

DRAINAGE AREA.--11,141 mi^2, of which 1,100 mi^2 is probably noncontributing.

PERIOD OF RECORD.--June 1904 to November 1905 (gage heights and discharge measurements only), December 1908 to September 1909, February 1910, April to July 1910, August 1910 to September 1911 (gage heights and discharge measurements only), October 1911 to May 1914, January to May 1924, September 1924 to July 1925, January 1927 to April 1934, August 1934 to current year. Monthly discharge only for some periods, published in WSP 1311. Records for December 1909, January 1910, and May to July 1934, published in WSP 267, 287, and 762 are unreliable and should not be used. Published as South Canadian River June to September 1904.

REVISED RECORDS.--WSP 1087: 1935-36. WSP 1117: Drainage area. WSP 1281: 1912, 1932(M), 1934, 1945-47, 1949-50. WSP 1311: 1931(M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 3,668.1 ft above National Geodetic Vertical Datum of 1929. See WSP 1311 or 1731 for history of changes prior to Oct. 1, 1934.

REMARKS. No estimated daily discharge. Records poor. Flow regulated by Conchas Lake, 45 mi upstream (station 07223500) and Ute Reservoir, 2 mi upstream (station 07226800). Diversions for irrigation of about 90,000 acres upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years (water years 1909, 1912-13, 1927-38), 392 ft^3/s (284,000 acre-ft/yr), prior to completion of Conchas dam; 24 years (water years 1939-62), 257 ft^3/s (186,200 acre-ft/yr), prior to completion of Ute Dam; 24 years (water years 1963-86), 35.0 ft^3/s (25,360 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD (SINCE 1925).--Maximum discharge, 219,000 ft^3/s Sept. 22, 1941 (gage height, 29.3 ft, from floodmarks), from rating curve extended above 75,000 ft^3/s; no flow at times prior to completion of Ute Dam.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 278,000 ft^3/s Sept. 30, 1904 (gage height, about 36.5 ft, site and datum used in 1909), from rating curve extended above 14,000 ft^3/s, from Ninth Biennial Report of State Engineer.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 254 ft^3/s Aug. 21 (gage height, 3.15 ft); minimum daily, 1.4 ft^3/s Dec. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	2.0	1.8	2.2	2.5	3.4	2.1	2.0	2.0	1.9	2.0	2.2
2	2.7	2.0	1.7	1.9	1.7	3.5	2.2	1.9	2.1	1.9	1.9	3.2
3	2.7	2.0	1.8	2.1	1.6	3.4	2.1	2.1	2.1	1.9	1.8	1.8
4	2.6	2.0	1.8	1.9	1.9	3.4	2.3	2.3	2.1	1.8	1.8	1.8
5	2.6	2.0	1.9	1.8	1.8	3.3	2.3	2.7	2.0	1.8	1.9	1.8
6	2.7	2.0	2.5	1.8	1.8	3.3	2.4	2.9	1.9	1.9	1.9	1.8
7	2.6	16	1.9	1.8	2.0	3.3	2.5	2.7	1.8	2.0	1.9	1.8
8	2.4	2.4	2.0	1.8	1.8	3.4	2.5	2.9	1.8	2.0	2.6	1.8
9	2.7	2.1	2.3	1.8	1.8	2.7	2.7	2.7	3.3	2.0	2.3	3.9
10	1.7	2.1	1.9	1.8	1.8	2.1	2.7	2.7	2.3	2.0	1.7	5.5
11	2.4	2.1	2.0	1.8	1.8	2.2	2.6	2.6	2.2	2.0	1.7	3.1
12	2.1	2.1	1.9	1.8	1.9	2.2	2.3	2.4	2.3	2.0	1.8	2.1
13	2.1	2.1	2.0	1.8	2.0	2.4	2.3	2.3	2.3	2.0	1.8	1.9
14	2.1	2.1	1.9	1.9	2.0	2.2	2.1	2.2	2.3	1.9	1.9	2.0
15	2.1	2.1	1.9	1.9	2.6	2.3	2.0	2.0	2.2	2.0	2.2	1.9
16	1.9	2.1	2.4	1.8	1.9	2.4	2.1	1.9	2.2	1.9	1.8	1.9
17	2.2	2.1	1.7	1.8	1.7	2.4	2.2	1.9	2.1	1.9	1.8	1.9
18	2.4	2.1	1.4	1.9	1.6	2.3	2.1	2.0	1.8	2.0	2.0	1.8
19	2.3	2.2	1.7	2.0	2.1	2.4	2.1	2.0	1.9	1.9	1.9	1.9
20	2.3	2.2	1.8	1.9	2.6	2.6	2.1	2.1	1.9	1.9	1.8	2.0
21	2.4	2.2	2.0	2.0	2.8	2.7	2.2	2.0	1.9	2.1	2.2	2.1
22	2.7	1.9	2.0	2.0	2.8	2.8	2.2	1.8	1.8	1.9	30	2.1
23	2.3	2.2	2.0	2.0	3.0	2.8	2.6	1.8	1.8	1.9	5.1	2.1
24	2.0	2.0	2.1	2.1	3.1	2.9	2.6	1.8	1.8	2.0	2.2	2.1
25	2.1	2.1	2.0	2.0	2.8	2.8	2.4	1.8	2.3	2.0	1.8	2.0
26	2.1	2.4	2.1	1.9	3.1	2.8	2.4	1.8	2.1	1.9	1.7	2.0
27	2.1	2.7	2.1	2.1	3.3	2.8	2.2	1.9	1.8	1.9	1.6	2.0
28	2.1	1.9	2.0	2.2	3.4	2.7	2.2	1.9	1.8	1.9	6.4	2.0
29	2.1	2.1	2.0	2.3	---	2.6	2.2	2.1	1.8	2.0	3.2	2.1
30	2.1	2.5	2.2	2.4	---	2.6	2.0	1.9	1.8	1.9	1.9	2.1
31	2.0	---	2.2	2.3	---	2.3	---	1.8	---	2.0	2.1	---
TOTAL	71.3	77.8	61.0	60.8	63.2	85.0	68.7	66.9	61.5	60.2	96.7	66.7
MEAN	2.30	2.59	1.97	1.96	2.26	2.74	2.29	2.16	2.05	1.94	3.12	2.22
MAX	2.7	16	2.5	2.4	3.4	3.5	2.7	2.9	3.3	2.1	30	5.5
MIN	1.7	1.9	1.4	1.8	1.6	2.1	2.0	1.8	1.8	1.8	1.6	1.8
AC-FT	141	154	121	121	125	169	136	133	122	119	192	132

CAL YR 1985 TOTAL 1049.1 MEAN 2.87 MAX 16 MIN 1.4 AC-FT 2080
WTR YR 1986 TOTAL 839.8 MEAN 2.30 MAX 30 MIN 1.4 AC-FT 1670

07227100 REVUELTO CREEK NEAR LOGAN, NM

LOCATION.--Lat 35°20'29", long 103°23'37", in SW1/4 NW1/4 sec.24, T.13 N., R.33 E., Quay County, Hydrologic Unit 11080008, on right bank 0.3 mi upstream from bridge on State Highway 39, 1.9 mi southeast of Logan, and at mile 2.3.

DRAINAGE AREA.--786 mi^2.

PERIOD OF RECORD.--August 1959 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,665 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Jan. 16, 1981, at site 320 ft upstream at datum 0.56 ft higher.

REMARKS.--Estimated daily discharges: Dec. 8-20, Mar. 14 to Apr. 22, May 14 to June 4, and July 22 to Sept. 16. Record poor. Low flows supplemented by surface and ground-water return from irrigation in vicinity of Tucumcari. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--27 years, 43.6 ft^3/s (31,590 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,700 ft^3/s July 9, 1960 (gage height, 14.3 ft), site and datum then in use; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD (1941-47).--Maximum discharge determined, about 13,400 ft^3/s Sept. 18, 1946 (gage height, 9.04 ft, at site 180 ft downstream at different datum), from unpublished records collected by U.S. Bureau of Reclamation.

A peak of 26,100 ft^3/s, date unknown (gage height, 12.9 ft, at former site and datum), was measured by slope-area method in May 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 26	Unknown	*3,680	*6.10	No other peak greater than base discharge.			

Minimum, no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	44	2.3	2.5	1.0	2.8	1.0	4.4	1.0	3.8	.00	100
2	13	64	2.4	2.6	1.0	2.8	1.0	4.8	1.0	2.4	.00	150
3	10	46	2.4	2.6	1.1	2.8	1.0	6.5	150	1.2	15	50
4	7.0	28	5.3	2.3	1.0	2.8	1.0	12	60	.56	2.0	500
5	5.4	20	3.4	2.1	1.7	2.5	1.0	10	36	.20	20	100
6	5.6	13	3.5	2.4	2.8	2.1	1.1	9.2	28	2.4	2.0	30
7	4.6	10	3.3	1.9	5.9	2.0	1.2	5.3	47	2.3	1.5	10
8	122	8.5	2.0	2.0	6.3	2.0	1.3	4.6	797	2.3	5.0	5.0
9	472	6.2	1.0	2.5	14	2.0	1.4	4.8	804	2.4	100	7.0
10	125	4.8	.50	2.8	26	1.8	1.5	3.2	129	.51	50	6.0
11	768	4.8	.10	2.8	30	1.8	1.5	2.2	23	.30	10	6.0
12	629	5.3	.30	2.6	58	1.5	1.5	2.0	6.4	.33	2.0	5.0
13	103	5.1	.50	2.4	187	.71	1.5	1.9	1.9	.15	1.0	5.0
14	48	6.8	.50	2.3	172	1.0	1.5	.50	.67	.16	1.0	5.0
15	30	12	.50	2.2	76	1.0	1.5	.50	.27	.00	1.0	5.0
16	26	8.2	1.0	2.1	96	1.0	1.5	.50	.10	.00	1.0	5.0
17	25	6.5	1.0	2.0	69	1.0	1.5	50	.02	.00	1.0	5.0
18	25	5.7	1.5	2.1	33	1.0	1.5	100	.00	.16	1.0	3.7
19	25	4.6	2.0	2.2	21	1.0	1.5	30	.00	1.8	1.0	6.7
20	25	3.7	3.0	2.2	16	1.0	1.5	10	53	.61	1.0	6.1
21	25	3.8	4.6	1.9	9.4	1.0	20	3.0	38	12	1.0	7.4
22	20	4.2	4.0	1.5	7.7	1.0	15	1.0	105	1.0	1.0	8.3
23	16	3.5	3.3	1.5	6.5	1.0	9.8	1.0	40	.50	100	9.8
24	14	3.0	3.1	1.4	5.7	1.0	36	1.0	9.5	.10	150	8.4
25	11	3.5	3.2	1.2	11	1.0	17	100	106	.00	60	5.8
26	12	3.8	3.5	1.2	6.3	1.0	8.6	900	694	.00	100	4.6
27	9.2	3.8	3.0	1.6	4.3	1.0	5.7	250	347	.00	100	5.0
28	8.3	4.1	3.1	1.6	2.8	1.0	5.7	30	96	.00	40	5.5
29	6.4	4.1	3.0	1.5	---	1.0	5.5	200	26	.00	10	4.8
30	5.7	3.6	3.4	1.4	---	1.0	4.8	50	7.6	.00	20	5.0
31	5.3	---	2.6	1.2	---	1.0	---	5.0	---	.00	5.0	---
TOTAL	2614.5	344.6	73.30	62.6	872.5	45.61	154.6	1803.40	3607.46	35.18	802.50	1075.1
MEAN	84.3	11.5	2.36	2.02	31.2	1.47	5.15	58.2	120	1.13	25.9	35.8
MAX	768	64	5.3	2.8	187	2.8	36	900	804	12	150	500
MIN	4.6	3.0	.10	1.2	1.0	.71	1.0	.50	.00	.00	.00	3.7
AC-FT	5190	684	145	124	1730	90	307	3580	7160	70	1590	2130

CAL YR 1985 TOTAL 13008.58 MEAN 35.6 MAX 1110 MIN .01 AC-FT 25800
WTR YR 1986 TOTAL 11491.35 MEAN 31.5 MAX 900 MIN .00 AC-FT 22790

07227500 CANADIAN RIVER NEAR AMARILLO, TX

LOCATION.--Lat 35°28'13", long 101°52'45", Potter County, Hydrologic Unit 11090105, on left bank at downstream side of southbound lane of bridge on U.S. Highways 87 and 287, 1,500 ft downstream from Pitcher Creek, 1.4 mi downstream from East Amarillo Creek, 1.7 mi downstream from Panhandle and Santa Fe Railway Co. bridge, 19 mi north of Amarillo, and 537.7 mi upstream from mouth.

DRAINAGE AREA.--19,445 mi², of which 4,069 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1924 to December 1925, January 1938 to current year. Monthly discharge only for some periods published in WSP 1311.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,989.16 ft above National Geodetic Vertical Datum of 1929. Jan. 16, 1924, to Dec. 31, 1925, and Apr. 3 to June 1, 1938, nonrecording gage at site of old bridge 20 ft upstream at same datum. June 2 to Dec. 5, 1938, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges; Nov. 30 to Dec. 4, Dec. 17-19, Jan. 5-9, 23, and Feb. 7-13. Records fair. At times, low flow is maintained by release of sewage effluent from the Amarillo disposal plant into East Amarillo Creek, a tributary to the Canadian River. Some regulation by Conchas and Ute Reservoirs in New Mexico, total capacity 439,700 acre-feet. Conchas Canal and Bell Ranch Canal divert water from Conchas Reservoir for irrigation.

AVERAGE DISCHARGE.--49 years (water years 1925, 1939-86), 316 ft³/s (228,900 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 135,000 ft³/s July 25, 1941 (gage height, 15.7 ft), from rating curve extended above 100,000 ft³/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1914 reached a stage of 24 ft; a higher stage probably occurred during flood in October 1904, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 14,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Sept. 3	2130	*13,500	*6.97				

Minimum discharge, no flow July 30 to Aug. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	194	58	25	27	34	38	8.9	.95	962	109	.00	1100
2	132	65	24	26	34	35	9.0	.81	343	78	.09	568
3	98	59	24	24	35	37	7.7	.73	211	52	100	6570
4	68	56	24	23	37	35	7.1	.82	181	26	184	1730
5	57	49	38	20	36	33	6.5	.60	222	10	124	284
6	47	47	39	20	39	33	6.0	.64	190	4.5	34	280
7	41	60	34	19	37	30	6.1	.86	139	2.2	11	382
8	48	55	30	18	36	29	5.7	.50	289	.99	11	241
9	670	47	29	19	36	25	5.9	.38	193	.22	350	219
10	1190	38	25	26	37	24	6.5	1.3	601	.06	433	207
11	955	35	18	26	36	25	6.7	12	383	37	290	169
12	822	37	26	23	36	25	7.2	3.6	160	10	158	135
13	716	40	24	22	50	26	6.6	1.9	97	1.8	183	102
14	467	45	22	22	133	28	5.8	3.1	63	.11	422	80
15	293	41	23	27	160	36	5.0	5.9	55	.01	95	73
16	188	48	21	25	187	35	5.8	6.7	53	.01	44	62
17	150	42	19	27	174	34	5.1	7.9	35	.01	23	61
18	131	39	19	26	154	29	3.3	12	28	.01	14	122
19	106	35	25	25	139	33	3.3	8.8	23	.01	20	81
20	392	30	29	24	125	29	3.5	6.3	66	.02	10	55
21	274	28	26	23	99	28	3.0	5.2	76	.14	319	54
22	175	26	30	22	86	24	3.9	4.0	45	2.2	163	41
23	143	26	25	22	75	22	3.2	2.9	117	54	67	34
24	115	26	25	24	69	24	1.8	4.4	88	26	30	45
25	90	25	23	22	63	18	1.7	11	48	8.2	113	31
26	77	25	24	19	59	15	1.2	12	39	1.2	289	29
27	65	23	23	20	47	15	1.1	83	43	.06	584	23
28	59	24	23	28	42	14	1.0	152	140	.02	130	18
29	57	27	23	33	---	12	1.0	119	248	.01	85	99
30	52	26	23	34	---	11	1.0	113	149	.00	59	168
31	49	---	23	33	---	9.9	---	113	---	.00	3200	---
TOTAL	7921	1182	786	749	2095	811.9	140.6	695.29	5287	423.78	7545.09	13063
MEAN	256	39.4	25.4	24.2	74.8	26.2	4.69	22.4	176	13.7	243	435
MAX	1190	65	39	34	187	38	9.0	152	962	109	3200	6570
MIN	41	23	18	18	34	9.9	1.0	.38	23	.00	.00	18
AC-FT	15710	2340	1560	1490	4160	1610	279	1380	10490	841	14970	25910

CAL YR 1985 TOTAL 33649.76 MEAN 92.2 MAX 4240 MIN .01 AC-FT 66740
WTR YR 1986 TOTAL 40699.66 MEAN 112 MAX 6570 MIN .00 AC-FT 80730

07227500 CANADIAN RIVER NEAR AMARILLO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: July 1948 to October 1949, February 1950 to current year. Chemical and biochemical analyses: March 1968 to current year. Pesticide analyses: March 1968 to June 1981.

PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: October 1950 to current year.
WATER TEMPERATURES: August 1949 to current year.
SUSPENDED SEDIMENT DISCHARGE: August 1949 to September 1952.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 6,870 microsiemens July 11, 1983; minimum daily, 346 microsiemens Oct. 29, 1964.
WATER TEMPERATURES (1949-76): Maximum daily, 39.0°C July 7, 1973; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 5,520 microsiemens Apr. 8; minimum daily, 355 microsiemens Sept. 3.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV												
15...	1030	47	3650	8.10	5.0	7	160	15.2	--	1.7	470	280
JAN												
17...	1200	29	4230	8.10	13.0	7	22	14.7	159	4.7	620	400
MAR												
21...	1230	28	4600	8.10	15.0	3	30	13.4	150	1.4	570	380
MAY												
09...	1300	0.38	2080	8.30	19.5	5	3.0	13.7	171	1.9	360	170
JUL												
21...	1615	E0.1	3650	8.30	32.0	10	25	10.9	--	1.2	560	420
AUG												
26...	1030	235	1580	8.00	22.0	10	17000	7.9	91	1.6	130	0

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
NOV											
15...	110	48	600	12	5.2	191	400	840	0.6	11	2100
JAN											
17...	150	59	690	12	7.8	220	550	970	1.0	16	2600
MAR											
21...	130	60	770	14	6.4	191	600	1100	0.8	15	2800
MAY											
09...	96	29	300	7	3.6	188	240	440	0.5	20	1200
JUL											
21...	140	50	530	10	6.2	140	520	800	0.5	15	2100
AUG											
26...	32	13	300	12	4.0	148	150	330	0.6	8.5	930

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DISSOLVED (UG/L AS AS)
NOV											
15...	300	44	0.16	0.04	0.20	0.32	0.18	0.5	0.19	2.5	--
JAN											
17...	40	6	0.31	0.09	0.40	2.40	1.1	3.5	0.58	5.9	--
MAR											
21...	45	4	--	<0.01	0.20	0.03	0.37	0.4	0.22	2.7	2
MAY											
09...	2	2	--	<0.01	<0.10	0.04	0.46	0.5	0.13	3.6	--
JUL											
21...	33	12	--	<0.01	<0.10	0.08	0.32	0.4	0.03	4.3	4
AUG											
26...	24900	1440	0.59	0.01	0.60	<0.01	--	20	17.0	>80	--

07227500 CANADIAN RIVER NEAR AMARILLO, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 15...	--	--	--	--	--	--	--	--	--	--	--
JAN 17...	--	--	--	--	--	--	--	--	--	--	--
MAR 21...	200	<1	<10	1	<10	2	20	<0.1	1	<1	<10
MAY 09...	--	--	--	--	--	--	--	--	--	--	--
JUL 21...	300	<1	<10	2	20	<5	140	0.1	<1	<1	80
AUG 26...	--	--	--	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	7921	1240	732	15700	240	5150	150	3270	200
NOV. 1985	1182	3510	2130	6790	760	2440	480	1530	560
DEC. 1985	786	4020	2450	5200	900	1900	560	1190	640
JAN. 1986	749	3940	2400	4860	880	1770	550	1110	630
FEB. 1986	2095	3260	1970	11200	700	3980	440	2500	520
MAR. 1986	811.9	4310	2640	5790	980	2140	610	1330	680
APR. 1986	140.6	5120	3170	1200	1200	458	750	284	810
MAY 1986	695.29	1550	918	1720	300	570	190	362	250
JUNE 1986	5287	1310	774	11000	260	3650	160	2310	210
JULY 1986	423.78	1690	999	1140	330	381	210	241	270
AUG. 1986	7545.09	890	522	10600	170	3440	110	2190	140
SEPT 1986	13063	696	409	14400	130	4690	85	2980	110
TOTAL	40699.66	**	**	89600	**	30600	**	19300	**
WTD.AVG.	112	1370	816	**	280	**	180	**	220

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	3160	4220	3770	3460	4060	5330	3170	534	1420	---	675
2	1750	3070	4210	3720	3380	4130	5270	3140	516	1550	3750	840
3	2390	3120	4200	3950	3340	4110	5230	2880	1470	1720	2700	355
4	2560	3160	4230	3880	3300	4080	5480	3040	1970	1810	1640	470
5	2730	3180	3530	3970	3750	4000	5490	3080	1450	2280	1020	690
6	2900	3500	3580	4140	3630	3940	5460	2990	1400	2760	857	940
7	3050	3480	3790	4210	3970	3860	5400	2620	1310	3250	1080	750
8	2980	3390	3990	4320	4150	4190	5520	2760	1500	3720	1390	925
9	1220	2910	3970	4440	4490	4330	5460	2810	1020	4030	775	1110
10	635	3060	4090	4000	4460	4530	5380	1840	1440	4130	650	1270
11	780	3200	4210	4010	4590	4080	5330	830	1360	880	910	1440
12	948	3310	4040	4160	4630	4120	5110	1160	1180	1260	1170	2030
13	1330	3400	4090	4300	4410	4250	5170	1580	1210	1640	1420	2020
14	1250	3460	4100	4060	3880	4390	5400	1790	1280	2190	727	2330
15	1360	3650	3970	3680	2290	4090	5350	1280	1350	2380	1350	2530
16	1440	3730	4140	3820	2800	4120	5120	1200	1430	2550	1600	2760
17	1500	3470	4210	3710	3460	3950	5480	1110	1480	2690	2270	2840
18	1560	3500	4270	3920	4140	4290	5060	720	2040	2860	2560	2270
19	1820	3650	3620	3980	2470	3860	4520	900	2150	2890	2770	2480
20	1070	3770	3500	4140	2350	4220	4260	1170	2000	2830	2850	2360
21	1260	3910	3740	4210	2520	4600	4010	1330	1400	3650	1970	2510
22	1240	4040	3600	4270	2700	4770	3890	1160	1560	3210	830	2600
23	1450	4150	3830	4310	2860	4890	4570	1230	1040	2500	1040	2930
24	1670	4270	4020	3940	2990	4750	4970	1340	1420	1890	1780	2800
25	1820	4230	4240	4080	3150	4900	4350	1150	1800	1510	1500	3020
26	2010	4190	4410	4220	3270	5130	4160	2030	2170	1860	1150	3230
27	2360	4170	4460	4160	3690	5100	3540	1860	2090	2030	663	3260
28	2610	4140	4480	3730	3840	5040	3080	1240	3200	2800	810	3600
29	2850	4170	4360	3420	---	5200	3050	1930	2350	4650	1070	2030
30	3100	4210	4320	3460	---	5210	3110	1620	1630	---	1290	1270
31	3240	---	4290	3440	---	5390	---	1550	---	---	616	---
MEAN	1870	3620	4060	3980	3500	4440	4790	1820	1560	2520	1470	1940

07227500 CANADIAN RIVER NEAR AMARILLO, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.0	---	---	12.0	16.0	18.0	---	13.0	16.0	---	---	---
2	10.0	---	---	11.0	14.0	17.0	---	16.0	17.0	---	---	---
3	13.0	---	3.0	8.0	17.0	15.0	9.0	15.0	19.0	---	19.0	---
4	---	---	8.0	8.0	---	---	8.0	15.0	25.0	22.0	---	---
5	---	18.0	9.0	8.0	---	---	9.0	15.0	28.0	21.0	---	---
6	---	14.0	8.0	11.0	---	8.0	13.0	---	---	---	23.0	---
7	---	16.0	12.0	---	---	7.0	15.0	---	22.0	23.0	21.0	---
8	18.0	16.0	---	---	---	15.0	15.0	16.0	19.0	20.0	22.0	---
9	13.0	16.0	---	9.0	---	10.0	---	---	20.0	20.0	---	---
10	14.0	---	---	10.0	---	7.0	---	15.0	19.0	27.0	---	---
11	19.0	9.0	---	12.0	---	10.0	---	15.0	18.0	18.0	---	---
12	20.0	---	---	---	---	---	---	16.0	19.0	---	---	25.0
13	20.0	---	---	13.0	---	---	14.0	13.0	---	---	29.0	26.0
14	16.0	---	---	12.0	4.0	7.0	9.0	16.0	---	---	27.0	26.0
15	---	---	3.0	---	4.0	10.0	10.0	14.0	---	28.0	30.0	29.0
16	---	14.0	---	---	8.0	11.0	12.0	---	---	29.0	33.0	29.0
17	21.0	15.0	---	5.0	7.0	11.0	21.0	---	28.0	32.0	34.0	---
18	22.0	16.0	---	6.0	8.0	7.0	---	---	29.0	32.0	34.0	---
19	20.0	8.0	---	5.0	9.0	5.0	---	---	31.0	33.0	34.0	20.0
20	20.0	---	1.0	7.0	6.0	7.0	---	28.0	28.0	34.0	---	28.0
21	21.0	---	2.0	7.0	---	---	---	32.0	30.0	---	22.0	29.0
22	---	---	2.0	3.0	---	---	25.0	29.0	32.0	---	22.0	21.0
23	---	---	2.0	7.0	---	---	25.0	24.0	30.0	28.0	28.0	20.0
24	---	4.0	---	---	---	---	26.0	25.0	---	32.0	31.0	---
25	---	8.0	---	---	18.0	23.0	23.0	25.0	---	35.0	23.0	---
26	17.0	9.0	4.0	---	20.0	21.0	24.0	18.0	21.0	36.0	21.0	18.0
27	16.0	---	9.0	---	14.0	25.0	22.0	---	---	32.0	20.0	14.0
28	---	6.0	9.0	14.0	13.0	25.0	27.0	---	22.0	20.0	---	19.0
29	---	---	---	14.0	---	24.0	---	17.0	24.0	24.0	---	---
30	9.0	---	---	15.0	---	27.0	---	18.0	23.0	---	---	16.0
31	9.0	---	9.0	13.0	---	26.0	---	19.0	---	---	19.0	---
MEAN	16.5	12.0	6.0	9.5	11.5	14.5	17.0	19.0	23.5	27.5	26.0	23.0

07227900 LAKE MEREDITH NEAR SANFORD, TX

LOCATION.--Lat 35°42'38", long 101°33'03", Hutchinson County, Hydrologic Unit 11090106, in outlet tower near right end of dam on Canadian River, 1.2 mi northwest of Sanford, and 508.5 mi upstream from mouth.

DRAINAGE AREA.--20,220 mi², of which 4,172 mi² probably is noncontributing.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to Aug. 16, 1965, nonrecording gage read daily at same site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 6,410 ft long. The dam was completed and storage began in October 1964. The service spillway is an uncontrolled concrete drop inlet located near the left end of dam. The spillway discharges into a 22-foot-diameter conduit that is designed to discharge 19,300 ft³/s at an elevation of 3,004.9 ft. The flood-control outlet works consist of three 12- by 15-foot gates that open into three 15.5-foot concrete conduits. The flood-control works are located just to the left of the service spillway near the left end of dam. The dam was built by the U.S. Bureau of Reclamation for the Canadian River Municipal Water Authority for flood control, municipal, and industrial supply for the cities of Amarillo, Borger, Brownfield, Lamesa, Levelland, Lubbock, O'Donnell, Pampa, Plainview, Slaton, and Tahoka. The area-capacity curves are based on sediment resurvey in May 1980 by U.S. Bureau of Reclamation. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	3,011.0	-
Design flood	3,004.9	2,409,900
Crest of drop inlet	2,965.0	1,382,500
Top of conservation pool	2,936.5	839,200
Crest of flood-control outlet works (invert)	2,894.0	300,400
Lowest gated outlet (invert)	2,850.0	42,320

COOPERATION.--Record of elevations and diversions provided by the Canadian River Municipal Water Authority. The area-capacity curves were provided by the U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 546,100 acre-ft Apr. 28, 1973 (elevation, 2,914.91 ft); minimum since first appreciable storage, 165,500 acre-ft May 27, 1981 (elevation, 2,876.17 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 287,100 acre-ft Oct. 26, 27 at 2400 hours (elevation, 2,892.48 ft); minimum, 238,800 acre-ft Aug. 26 (elevation, 2,886.60 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

2,886.0	234,200	2,892.0	282,900
2,888.0	249,800	2,894.0	300,400
2,890.0	266,100		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	275000	286300	281400	276300	272800	272300	266200	256400	250400	255100	242000	243300
2	276100	286300	281100	276000	272700	272300	266200	256100	251800	255000	241300	245500
3	275900	286200	280800	275900	272600	272200	265900	256000	252500	254900	241600	247900
4	275700	286000	280600	275800	272600	272100	265400	255600	252700	254500	241400	254700
5	275600	285900	280700	275900	272500	271700	265200	255400	252900	254100	241200	259000
6	275400	285600	280500	275500	272300	271700	264900	255000	253200	253500	241000	259900
7	275100	285600	280400	275400	272400	271300	264500	254600	253600	253100	240500	260800
8	275100	285500	280100	275300	272500	271300	264100	254000	254100	252800	240200	261600
9	275800	285100	279900	275100	272500	271300	264000	253500	255100	252200	239900	261800
10	277900	284900	279700	275100	272700	270800	263600	253300	255600	251800	239900	261900
11	280200	284700	279500	275100	272500	270800	263400	252900	256400	251400	240300	261900
12	281700	284500	279300	275100	272300	270600	263200	252600	256500	250700	240400	261800
13	283200	284500	279200	274900	272300	270400	262800	252100	256700	250300	240500	261700
14	284300	284500	278800	274800	271900	270200	262400	251800	256200	249900	240900	261700
15	284700	284500	278600	274800	272300	270000	262100	251600	256400	249300	241000	261500
16	285000	284300	278400	274800	272600	270000	261800	250700	256200	248700	241000	261700
17	285300	284000	278200	274700	272600	270300	261600	250600	256200	248000	240700	262100
18	285300	283900	278000	274500	272600	270000	261200	250300	256100	247500	240500	262100
19	285500	283600	277700	274500	272600	269800	260900	250000	255800	246600	239900	262100
20	286100	283500	277600	274500	272600	269500	260400	249500	255500	246500	239400	262000
21	286500	283300	277600	274400	272600	269300	260300	249100	255500	247100	239300	261700
22	286900	283000	277300	274400	272600	269000	259900	248700	256000	246900	239300	262200
23	286800	282800	277300	274200	272700	268900	259800	248300	256000	246500	239300	262100
24	286800	282400	277300	273900	272800	268800	259200	247900	256200	246000	239200	262100
25	287000	282400	277300	273900	272800	268400	258600	248100	256000	245500	238900	261800
26	287100	282200	277000	273900	272500	267900	258300	248300	255800	245200	238800	261500
27	287100	282200	276900	273700	272500	267800	257800	248100	255500	244600	239200	261300
28	287000	282100	276600	273400	272300	267600	257500	248100	255300	244100	239300	261000
29	286800	281900	276500	273300	---	267300	257200	248100	255300	243700	239400	261100
30	286500	281600	276500	273100	---	267000	256800	248100	255200	243100	239200	261100
31	286500	---	276500	272800	---	266100	---	249000	---	242600	240100	---
MAX	287100	286300	281400	276300	272800	272300	266200	256400	256700	255100	242000	262200
MIN	275000	281600	276500	272800	271900	266100	256800	247900	250400	242600	238800	243300
(†)	2892.41	2891.85	2891.25	2890.81	2890.75	2890.00	2888.86	2887.89	2888.67	2887.08	2886.76	2889.39
(ϕ)	+11500	-4800	-5200	-3700	-500	-6200	-9300	-8100	+6500	-12600	-2500	+21000
(††)	5230	4630	5610	4040	4430	5900	7520	7440	5070	8000	7620	5340

CAL YR 1985 MAX 318800 MIN 266900 (ϕ) -42600 (††) 74370
WTR YR 1986 MAX 287100 MIN 238800 (ϕ) -13900 (††) 70830

(†) Elevation, in feet, at end of month.
(ϕ) Change in contents, in acre-feet.
(††) Diversions, in acre-feet, for municipal and industrial uses.

07227920 DIXON CREEK NEAR BORGER, TX

LOCATION.--Lat 35°39'53", long 101°21'02", Hutchinson County, Hydrologic Unit 11090106, on right bank at downstream side of bridge on State Highway 152, 2.4 mi east of Borger, and 7.6 mi upstream from mouth.

DRAINAGE AREA.--134 mi²

PERIOD OF RECORD.--March 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,834.84 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharge: Feb. 10 to Mar. 1. Records fair except those for estimated daily discharges, which are poor. No known diversions upstream from station.

AVERAGE DISCHARGE.--12 years, 1.81 ft³/s (1,310 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,640 ft³/s May 26, 1977 (gage height, 8.99 ft), from rating curve extended above 25 ft³/s on basis of slope-conveyance studies; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
May 3	2100	*980	*8.26	No other peak greater than base discharge.			

Minimum discharge, no flow for several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.01	.10	.04	.20	.49	.18	.29	3.3	1.7	.05	.00
2	.00	.01	.10	.04	.20	.45	.28	.38	28	.08	.01	.01
3	.00	.01	.10	.04	.31	.54	.15	87	15	.10	1.3	.12
4	.00	.01	.10	.04	.35	.62	.05	19	4.7	.05	.35	.02
5	.00	.04	.10	.04	.35	.49	.17	2.2	2.6	.05	.13	.46
6	.00	.00	.10	.05	.35	.45	.36	1.2	2.4	.01	.19	.79
7	.00	.01	.14	.05	.50	.62	.54	1.1	1.5	.02	.20	.00
8	.03	.05	.14	.05	.69	.70	.35	.82	1.1	.02	.15	.00
9	18	.01	.14	.05	.74	.54	.04	.21	1.2	.01	87	.01
10	27	.00	.14	.05	.62	.86	.07	.50	.90	.01	45	.03
11	5.9	.00	.21	.05	.62	.54	.08	.47	.40	.01	3.5	.01
12	1.8	.01	.21	.05	.54	.54	.14	.53	.27	.01	1.7	.01
13	.58	.01	.14	.05	.58	.54	.39	.39	.22	.01	1.0	.01
14	.01	.02	.21	.05	.58	.41	.04	.35	.17	.00	.87	.01
15	.00	.01	.14	.05	.58	.54	.02	.25	16	.00	1.1	.02
16	.00	.01	.10	.06	.58	.54	.14	.46	3.1	.00	.66	.03
17	.01	.01	.04	.06	.62	.74	.35	.28	1.1	.00	1.6	2.0
18	.04	.01	.04	.06	.62	.54	.14	.12	.62	.00	1.7	1.5
19	.03	.01	.04	.06	.62	.54	.03	.25	.32	.00	.42	.13
20	.03	.01	.04	.06	.62	.41	.10	.41	.09	.02	.19	.06
21	.10	.01	.05	.06	.66	.39	.19	.57	.05	132	.07	.05
22	.07	.01	.06	.06	.66	.50	.28	.63	.10	11	.12	.16
23	.02	.01	.06	.06	.66	.42	.46	.41	.09	3.3	.07	.05
24	.02	.02	.06	.05	70	.50	.52	1.9	.12	1.9	.07	.05
25	.02	.04	.06	.04	.70	.57	.51	70	.09	1.1	.07	.00
26	.06	.07	.06	.04	.70	.35	.54	16	.05	.50	.06	.01
27	.02	.04	.04	.04	.70	.38	.11	7.2	.04	.19	.02	.00
28	.02	.04	.04	.09	.74	.54	.18	3.1	.05	.14	.01	.01
29	.01	.07	.04	.06	---	.55	.50	1.9	.04	.09	.01	.06
30	.01	.10	.04	.18	---	.53	.54	1.5	.08	.07	.01	1.1
31	.01	---	.04	.27	---	.60	---	1.3	---	.04	.01	---
TOTAL	53.79	.66	2.88	1.95	15.79	16.43	7.45	220.72	83.70	152.43	147.64	6.71
MEAN	1.74	.02	.09	.06	.56	.53	.25	7.12	2.79	4.92	4.76	.22
MAX	27	.10	.21	.27	.74	.86	.54	87	28	132	87	2.0
MIN	.00	.00	.04	.04	.20	.35	.02	.12	.04	.00	.01	.00
AC-FT	107	1.3	5.7	3.9	31	33	15	438	166	302	293	13

CAL YR 1985	TOTAL	172.35	MEAN	.47	MAX	32	MIN	.00	AC-FT	342
WTR YR 1986	TOTAL	710.15	MEAN	1.95	MAX	132	MIN	.00	AC-FT	1410

07228000 CANADIAN RIVER NEAR CANADIAN, TX
(National stream-quality accounting network)

LOCATION.--Lat 35°56'06", long 100°22'13", Hemphill County, Hydrologic Unit 11090106, near left bank at downstream side of pier of bridge on U.S. Highways 60 and 83, 600 ft downstream from Panhandle and Santa Fe Railway Co. bridge, 1.2 mi downstream from Red Deer Creek, 1.6 mi northeast of Canadian, and 433.9 mi upstream from mouth.

DRAINAGE AREA.--22,866 mi^2, of which 4,688 mi^2 probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1924 to August 1925 (gage heights only), January 1938 to current year. Prior to April 1938, monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,301.50 ft above National Geodetic Vertical Datum of 1929. July 1, 1924, to Aug. 31, 1925, and Apr. 21 to Dec. 15, 1938, nonrecording gage; Dec. 16, 1938, to Sept. 30, 1953, water-stage recorder and nonrecording gages; all at site 300 ft upstream at same datum.

REMARKS.--Estimated daily discharges: May 18 to June 2, June 12-16, June 30 to July 1 and July 28 to Sept. 30. Records good except those for estimated daily discharges, which are poor. Extreme low flow is maintained by springs that enter the river about 600 ft upstream from the gage. There is some regulation and diversions from Lake Meredith (07227900) 75 mi upstreeam. Gage-height telemeter at station via Sutron data collection platform.

AVERAGE DISCHARGE.--26 years (water years 1939-64) prior to completion of Lake Meredith, 549 ft^3/s (397,800 acre-ft/yr); 22 years (water years 1965-86) regulated, 86.4 ft^3/s (62,600 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 122,000 ft^3/s Sept. 23, 1941 (gage height, 9.8 ft), from graph based on gage readings, and from rating curves for two channels extended above 8,000 and 54,000 ft^3/s; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 20.0 ft Oct. 2, 1904. Floods of May 2, 1914, and Oct. 5, 1923, reached stages of 12 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,820 ft^3/s Oct. 10 at 1530 hours (gage height, 7.44 ft); minimum, 4.9 ft^3/s Aug. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	90	55	113	60	63	56	23	41	300	4.9	16
2	25	84	55	106	56	63	62	25	100	104	4.9	81
3	23	77	60	97	58	66	65	28	143	62	5.7	86
4	22	74	79	95	58	97	63	26	243	46	6.0	42
5	21	74	86	95	57	88	59	21	219	35	6.3	26
6	21	68	78	100	58	84	46	26	159	29	6.3	30
7	20	63	79	97	68	81	39	42	109	30	6.6	34
8	21	64	77	100	84	78	32	38	87	30	6.6	34
9	61	64	72	100	100	64	30	32	76	29	11	36
10	2250	64	68	109	111	58	28	28	74	26	21	35
11	981	66	62	107	104	58	24	28	65	30	28	35
12	288	70	75	101	103	59	25	26	57	24	38	30
13	218	69	73	90	108	53	25	24	59	18	50	28
14	182	80	74	85	134	52	20	24	63	14	59	27
15	163	108	84	85	172	64	19	31	66	12	154	26
16	153	103	82	85	166	66	18	28	69	10	373	23
17	177	94	90	82	132	72	18	31	53	8.8	160	29
18	163	93	96	79	117	62	15	38	50	8.1	74	29
19	153	87	93	78	113	57	13	37	48	7.9	45	29
20	148	82	96	80	95	55	14	36	47	7.6	36	27
21	143	82	105	74	86	54	12	33	59	7.6	36	25
22	144	81	104	67	83	47	11	31	50	7.9	35	24
23	129	80	91	67	79	47	11	29	41	7.7	28	26
24	118	81	85	71	84	43	9.4	29	38	7.0	24	26
25	118	86	83	71	86	38	8.2	27	35	14	23	28
26	126	86	91	67	81	34	8.0	26	31	23	21	30
27	115	89	89	65	71	65	32	24	28	22	19	32
28	99	85	92	66	62	73	37	23	28	11	26	35
29	96	83	97	63	---	72	30	22	28	7.6	30	39
30	93	85	111	64	---	59	24	20	26	6.0	20	42
31	91	---	115	64	---	58	---	19	---	5.7	17	---
TOTAL	6385	2412	2597	2623	2586	1930	853.6	875	2192	950.9	1375.3	1010
MEAN	206	80.4	83.8	84.6	92.4	62.3	28.5	28.2	73.1	30.7	44.4	33.7
MAX	2250	108	115	113	172	97	65	42	243	300	373	86
MIN	20	63	55	63	56	34	8.0	19	26	5.7	4.9	16
AC-FT	12660	4780	5150	5200	5130	3830	1690	1740	4350	1890	2730	2000

```
CAL YR 1985  TOTAL  34688.89     MEAN  95.0    MAX  2250    MIN  .22    AC-FT  68810
WTR YR 1986  TOTAL   25789.8     MEAN  70.7    MAX  2250    MIN  4.9    AC-FT  51150
```

07228000 CANADIAN RIVER NEAR CANADIAN, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: March 1968 to current year. Pesticide analyses: October 1970 to June 1982.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to September 1981.
WATER TEMPERATURES: October 1974 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 4,480 microsiemens Aug. 12, 1979; minimum daily, 461 microsiemens Sept. 8, 1980.
WATER TEMPERATURES: Maximum daily, 39.0°C June 28, 1979; minimum daily, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV											
11...	1230	67	3200	8.20	6.0	4.6	14.9	--	1.4	220	550
JAN											
14...	1000	76	3100	8.00	3.0	8.5	15.4	--	2.5	160	450
MAR											
17...	1145	73	3150	8.00	14.0	4.7	12.9	141	1.8	K14	K25
MAY											
05...	1145	21	3330	8.10	22.5	1.2	8.3	108	1.8	K62	K32
JUL											
22...	1000	8.4	2550	8.00	25.0	--	10.1	136	1.4	720	K2600
AUG											
25...	1700	19	3150	8.60	30.0	15	6.6	--	1.8	100	K40

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV											
11...	600	350	140	60	460	8	6.3	249	200	790	3.6
JAN											
14...	500	260	120	48	450	9	6.7	242	250	700	2.1
MAR											
17...	570	330	130	60	450	8	7.2	240	240	740	2.1
MAY											
05...	520	350	110	60	520	10	7.1	171	250	900	1.9
JUL											
22...	320	130	60	40	380	10	6.4	190	130	600	1.6
AUG											
25...	540	250	130	52	480	9	7.1	288	170	770	1.8

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
NOV										
11...	20	1950	1800	--	--	<0.01	<0.01	0.60	0.65	0.08
JAN										
14...	21	1860	1700	0.88	0.85	0.02	0.02	0.90	0.87	0.09
MAR										
17...	17	1800	1800	0.69	0.65	0.01	0.01	0.70	0.66	0.06
MAY										
05...	11	1950	2000	--	--	<0.01	<0.01	<0.10	<0.10	0.01
JUL										
22...	13	1450	1300	--	--	<0.01	<0.01	<0.10	<0.10	0.01
AUG										
25...	16	1680	1800	--	--	<0.01	<0.01	<0.10	<0.10	0.03

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV										
11...	0.08	0.42	0.5	0.05	0.02	0.03	0.09	177	32	82
JAN										
14...	0.12	0.61	0.7	0.09	0.13	0.08	0.25	68	14	34
MAR										
17...	0.07	0.54	0.6	0.10	0.03	0.01	0.03	62	12	26
MAY										
05...	0.02	0.39	0.4	0.03	0.03	0.02	0.06	13	0.74	64
JUL										
22...	<0.01	0.29	0.3	0.04	0.01	<0.01	--	--	--	--
AUG										
25...	0.02	0.27	0.3	0.07	0.05	0.03	0.09	36	1.8	89

07228000 CANADIAN RIVER NEAR CANADIAN, TX--Continued
(National stream-quality accounting network)

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)
NOV										
11...	20	3	300	<10	<1	<1	<1	<1	40	<1
JAN										
14...	--	--	--	--	--	--	--	--	--	--
MAR										
17...	<10	2	300	<10	<1	<1	<1	1	<10	<1
MAY										
05...	--	--	--	--	--	--	--	--	--	--
JUL										
22...	10	3	300	<10	<1	<1	<1	2	10	<5
AUG										
25...	--	--	--	--	--	--	--	--	--	--

DATE	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV										
11...	90	30	<0.1	10	1	<1	<1	2500	14	30
JAN										
14...	--	--	--	--	--	--	--	--	--	--
MAR										
17...	100	50	<0.1	4	2	1	<1	2100	8	20
MAY										
05...	--	--	--	--	--	--	--	--	--	--
JUL										
22...	90	20	0.1	3	1	<1	<1	1100	12	<10
AUG										
25...	--	--	--	--	--	--	--	--	--	--

07235000 WOLF CREEK AT LIPSCOMB, TX

LOCATION.--Lat 36°14'19", long 100°16'31", Lipscomb County, Hydrologic Unit 11100203, on right bank at downstream side of State Highway 305, 0.3 mi north of Lipscomb, 0.6 mi downstream from Sand Creek, 2 mi upstream from Plum Creek, and 61.2 mi upstream from mouth.

DRAINAGE AREA.--697 mi², of which 222 mi² probably is noncontributing.

PERIOD OF RECORD.--October 1937 to September 1942, October 1961 to current year. Prior to 1941, monthly discharges only, published in WSP 1311.
Water-quality records.--Chemical and biochemical analyses: May 1980.

REVISED RECORDS.--WSP 1311: 1938-39, drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 2,371.29 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 25, 1938, nonrecording gage, Feb. 25, 1938, to Sept. 30, 1942, water-stage recorder at present site at datum 5.77 ft higher.

REMARKS.--No estimated daily discharge. Records fair. Small diversions upstream from station for irrigation and recreation.

AVERAGE DISCHARGE.--30 years (water years 1938-42, 1962-86), 14.6 ft³/s (0.42 in/yr), 10,580 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,000 ft³/s Oct. 21, 1941 (gage height, 11.57 ft, present datum), from rating curve extended above 14,000 ft³/s on basis of velocity-area studies; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1890, 15.5 ft June 23, 1957, present site and datum, from floodmarks. A flood in May 1955 reached a stage of 12.1 ft, present site and datum, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Aug. 8	0200	*144	*5.26				

Minimum discharge, 0.12 ft³/s Aug. 5 and 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	1.0	1.1	.95	.59	.89	1.2	.76	1.6	1.2	.22	5.4
2	.50	1.1	1.1	.85	.62	.95	1.2	.77	2.0	1.2	.20	6.4
3	.53	1.2	1.4	.81	.65	1.0	1.1	.89	1.5	1.2	.18	5.9
4	.44	1.0	1.7	.77	.55	1.1	1.0	1.0	.99	1.1	.17	6.5
5	.40	1.3	1.8	.77	.53	1.2	1.3	1.0	.88	.96	.17	6.8
6	.38	1.5	1.9	.79	.52	1.2	1.4	.81	.86	.83	.15	6.3
7	.36	1.6	2.0	.75	.36	1.2	1.5	.75	.84	1.3	1.5	5.6
8	.37	1.7	1.8	.66	.35	.93	1.2	.70	.78	1.5	40	5.2
9	.43	1.7	2.0	.60	.40	1.1	1.0	.63	.89	1.4	1.4	5.1
10	1.1	1.7	1.9	.63	.44	1.1	.98	.65	.97	1.4	.51	4.7
11	.61	1.7	1.9	.62	.44	1.2	.95	.66	.87	2.1	1.7	4.4
12	.71	1.8	2.0	.62	.49	1.1	1.0	.58	.74	3.9	1.6	4.1
13	.62	2.0	2.0	.57	.58	1.2	1.0	.53	.77	3.7	1.0	3.9
14	.40	1.8	2.0	.53	.58	1.2	.87	.61	.69	3.2	1.1	3.8
15	.40	1.8	2.1	.53	.67	1.1	.81	.66	1.0	2.8	3.3	3.7
16	.36	1.7	2.3	.46	.82	1.3	.91	.62	.91	2.2	2.3	3.6
17	.37	1.9	2.3	.35	.77	1.4	1.2	.63	.86	1.5	1.6	4.1
18	.40	1.8	2.3	.39	.77	1.3	1.2	.62	.90	1.1	2.6	3.3
19	.37	1.4	2.1	.42	.72	.95	1.1	.64	.86	.82	3.4	2.5
20	.37	1.3	2.1	.46	.52	.97	.82	.67	.71	.61	2.6	3.0
21	.45	1.4	1.9	.39	.46	1.0	.59	.61	.76	.56	1.9	3.2
22	.54	1.4	1.9	.37	.52	1.1	.47	.57	.83	.60	1.9	2.9
23	.62	1.5	1.9	.37	.62	1.2	.53	.52	.81	.69	1.8	3.0
24	.58	1.5	1.7	.40	.59	1.2	.56	.44	.81	.62	1.6	3.0
25	.56	1.6	1.5	.30	.73	1.1	.65	.45	.77	.58	1.6	2.9
26	.65	1.8	1.4	.28	.81	1.0	.76	.46	.75	.67	2.6	2.8
27	.79	1.8	1.3	.31	.81	.77	.75	.52	.97	.48	6.6	2.7
28	.86	1.7	1.0	.48	.79	.92	.80	.51	.95	.48	4.4	2.9
29	.92	1.5	.95	.51	---	.87	.81	.54	1.0	.41	3.8	3.1
30	.96	1.3	.94	.48	---	1.1	.65	.65	1.0	.30	3.5	4.1
31	1.0	---	.92	.60	---	1.3	---	.72	---	.23	5.5	---
TOTAL	17.45	46.5	53.21	17.02	16.70	33.95	28.31	20.17	28.27	39.64	100.90	124.9
MEAN	.56	1.55	1.72	.55	.60	1.10	.94	.65	.94	1.28	3.25	4.16
MAX	1.1	2.0	2.3	.95	.82	1.4	1.5	1.0	2.0	3.9	40	6.8
MIN	.36	1.0	.92	.28	.35	.77	.47	.44	.69	.23	.15	2.5
CFSM	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01
IN.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01
AC-FT	35	92	106	34	33	67	56	40	56	79	200	248

CAL YR 1985 TOTAL 1012.37 MEAN 2.77 MAX 121 MIN .14 CFSM .01 IN. .08 AC-FT 2010
WTR YR 1986 TOTAL 527.02 MEAN 1.44 MAX 40 MIN .15 CFSM .00 IN. .04 AC-FT 1050

07297910 PRAIRIE DOG TOWN FORK RED RIVER NEAR WAYSIDE, TX
(National stream-quality accounting network)

LOCATION.--Lat 34°50'15", long 101°24'49", Armstrong County, Hydrologic Unit 11120103, on left bank at downstream side of bridge on Farm Road 284, 13 mi northeast of Wayside, 26 mi south of Claude, and at mile 1,145.

DRAINAGE AREA.--4,211 mi^2, of which 3,281 mi^2 probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,463.74 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Records fair. There are several small diversions upstream from station.

AVERAGE DISCHARGE.--19 years, 26.3 ft^3/s (19,050 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58,000 ft^3/s Aug. 28, 1968 (gage height, 13.0 ft, from floodmark); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug. 31	0500	*15,800	*10.77	No other peak greater than base discharge.			

Minimum discharge, 0.35 ft^3/s May 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	4.0	14	1.3	1.1	1.6	.71	.54	100	9.7	1.4	119
2	13	3.3	2.2	1.3	1.2	1.5	.74	.53	11	1.7	1.4	207
3	11	3.4	2.2	1.3	1.2	1.4	.70	.49	4.0	1.1	24	34
4	7.8	3.2	2.3	1.3	1.2	1.4	.58	.49	17	.94	14	58
5	7.3	2.9	1.8	1.2	2.4	1.4	.64	.44	16	.99	6.4	24
6	7.7	2.6	1.9	1.2	2.8	1.3	.62	.44	7.3	.99	2.0	25
7	7.0	2.2	1.7	1.1	3.0	1.3	.63	.40	2.7	.99	107	21
8	6.8	2.2	1.7	1.2	4.3	1.3	.54	.48	229	.99	53	20
9	756	2.1	1.9	1.4	4.5	1.3	.82	.39	168	.99	31	19
10	2490	1.8	2.0	1.4	4.0	1.3	.78	.40	36	.99	8.9	16
11	696	1.8	2.3	1.5	3.0	1.5	5.3	.44	11	.99	1.2	12
12	247	2.0	2.3	1.4	3.0	1.5	29	.44	6.8	.98	1.1	11
13	89	2.1	7.3	1.4	4.0	1.5	4.0	.44	4.4	.90	.99	9.3
14	43	3.2	3.0	1.4	8.3	2.3	2.5	.44	2.8	.90	.97	121
15	30	1.8	2.5	1.4	7.1	5.0	1.7	.48	4.6	.90	40	40
16	21	1.7	2.3	1.4	4.5	2.8	1.6	.58	1.9	.90	3.2	27
17	14	1.8	2.0	1.4	3.5	2.1	1.8	2.2	1.8	.90	.88	13
18	13	1.7	2.0	1.4	3.0	1.8	.99	28	2.0	.90	.76	8.0
19	10	1.5	1.8	1.4	2.8	1.8	2.1	4.3	2.0	.90	.81	7.1
20	9.7	1.5	1.8	1.3	2.3	1.9	2.4	1.5	88	.90	.81	6.4
21	8.7	1.7	1.8	1.1	2.2	1.8	1.1	.73	43	1.5	322	6.5
22	7.9	1.8	1.6	1.1	2.5	1.5	.78	.66	6.7	9.6	9.0	6.9
23	6.8	1.9	1.4	1.1	2.3	1.3	.81	.66	1.6	6.4	3.7	7.0
24	6.1	1.8	1.2	1.3	2.0	1.2	.73	.67	1.4	2.2	2.6	75
25	5.6	1.9	1.2	1.0	2.0	1.1	.73	1.6	1.7	1.9	1.5	12
26	5.5	1.7	1.3	1.0	1.8	1.0	.67	23	.88	1.8	331	5.4
27	5.6	1.8	1.3	1.2	1.6	1.1	.83	5.9	1.6	1.8	31	3.9
28	5.2	1.8	1.3	1.3	1.6	1.0	.63	1.9	1.6	1.7	6.0	5.0
29	4.7	1.9	1.4	1.3	---	.94	.60	2.0	.96	1.7	2.7	10
30	4.3	4.0	1.3	1.2	---	.91	.58	1.7	1.7	1.5	3.5	4.7
31	3.9	---	1.3	1.1	---	.81	---	1.3	---	1.5	2430	---
TOTAL	4559.6	67.1	74.1	39.4	83.2	48.66	65.61	83.54	777.64	60.15	3442.82	934.2
MEAN	147	2.24	2.39	1.27	2.97	1.57	2.19	2.69	25.9	1.94	111	31.1
MAX	2490	4.0	14	1.5	8.3	5.0	29	28	229	9.7	2430	207
MIN	3.9	1.5	1.2	1.0	1.1	.81	.54	.39	.88	.90	.76	3.9
AC-FT	9040	133	147	78	165	97	130	166	1540	119	6830	1850

CAL YR 1985 TOTAL 9076.59 MEAN 24.9 MAX 2490 MIN .02 AC-FT 18000
WTR YR 1986 TOTAL 10236.02 MEAN 28.0 MAX 2490 MIN .39 AC-FT 20300

07297910 PRAIRIE DOG TOWN FORK RED RIVER NEAR WAYSIDE, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1967 to current year. Chemical and biochemical analyses: October 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1968 to September 1981.
WATER TEMPERATURES: October 1968 to September 1981.

INSTRUMENTATION.--Specific conductance was recorded continuously at this station from April 1968 to September 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 51,100 microsiemens July 30, 1978; minimum daily, 417 microsiemens July 10, 1975
WATER TEMPERATURES: Maximum daily, 38.0°C Oct. 14, 1968, June 13, 1975; minimum daily, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
NOV 15...	1400	2.0	16200	8.20	15.0	0.4	15.0	174	1.1	170	K12	2200
JAN 18...	1300	1.3	21600	8.20	12.0	0.5	13.9	153	1.4	130	K15	2100
MAR 20...	1215	1.9	17500	7.90	16.5	0.5	12.6	150	0.8	K10	K23	2000
MAY 08...	1225	0.39	35700	8.10	25.5	0.8	6.3	98	0.8	K12	K35	3000
JUL 21...	1945	2.1	10100	7.80	26.0	--	13.0	184	3.7	7100	7300	1100
AUG 26...	1315	0.44	11000	8.10	23.5	110	6.7	91	1.3	K2000	K160	1700

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
NOV 15...	2000	610	150	3300	32	47	128	1900	5100	1.0	24	11500
JAN 18...	2000	610	150	4200	41	55	133	2400	6100	0.9	22	14000
MAR 20...	1900	560	140	3300	34	45	131	2100	5300	1.1	26	12100
MAY 08...	2900	850	220	7800	64	110	158	3100	12000	0.8	30	24700
JUL 21...	990	310	70	1800	25	30	84	1300	2700	0.6	16	6580
AUG 26...	1600	500	110	2300	25	35	120	1900	3300	1.0	26	8600

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4)
NOV 15...	11000	--	<0.01	<0.10	0.27	0.28	0.03	0.3	0.01	<0.01	<0.01	--
JAN 18...	14000	--	<0.01	<0.10	0.16	0.19	0.14	0.3	<0.01	0.01	0.02	0.06
MAR 20...	12000	--	<0.01	<0.10	0.22	0.22	0.0	0.2	<0.01	0.02	0.01	0.03
MAY 08...	24000	--	<0.01	<0.10	0.20	0.18	0.2	0.4	0.01	0.02	<0.01	--
JUL 21...	6200	0.66	0.03	0.69	0.21	0.22	1.5	1.7	0.97	0.01	<0.01	--
AUG 26...	8200	0.13	0.02	0.15	0.34	0.23	0.46	0.8	0.09	0.02	<0.01	--

07297910 PRAIRIE DOG TOWN FORK RED RIVER NEAR WAYSIDE, TX--Continued
(National stream-quality accounting network)

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
NOV 15...	27	0.15	85	<10	4	<100	<10	<1	<1	<1	<1	70
JAN 18...	10	0.03	55	--	--	--	--	--	--	--	--	--
MAR 20...	7	0.04	88	<10	4	200	<10	1	<1	20	7	10
MAY 08...	5	0.01	62	--	--	--	--	--	--	--	--	--
JUL 21...	1860	11	100	30	5	400	<10	<1	<1	<1	3	40
AUG 26...	228	0.27	45	--	--	--	--	--	--	--	--	--

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 15...	<1	130	170	0.1	4	<1	2	<1	11000	50	30
JAN 18...	--	--	--	--	--	--	--	--	--	--	--
MAR 20...	2	<10	130	0.2	4	7	3	<1	8500	70	10
MAY 08...	--	--	--	--	--	--	--	--	--	--	--
JUL 21...	<5	70	250	0.3	4	2	1	<1	8200	40	30
AUG 26...	--	--	--	--	--	--	--	--	--	--	--

07298100 MACKENZIE RESERVOIR NEAR SILVERTON, TX

LOCATION.--Lat 34°32'43", long 101°26'16", Briscoe County, Hydrologic Unit 11120104, at upstream side of dam on Tule Creek, 0.9 mi upstream from Rock Creek, 9.5 mi northwest of Silverton, and 22.7 mi upstream from mouth.

DRAINAGE AREA.--1,053 mi², of which 904 mi² probably is noncontributing.

PERIOD OF RECORD.--October 1974 to September 1986 (discontinued).

REVISED RECORDS.--WDR TX-77-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Freese and Nichols, Inc., Consulting Engineers bench mark).

REMARKS.--The reservoir is formed by a rolled earthfill dam 2,100 ft long. The dam was completed in August 1974 and storage began in June 1974. The uncontrolled spillway is an open cut channel just beyond the right end of dam. The service spillway is an uncontrolled ogee-type weir across a concrete chute at the right end of dam. A 30-inch gated outlet concrete pipe discharges into a valve vault at the downstream toe of the dam and then into the creek bed downstream. Water is used for municipal, industrial, and recreational purposes by the cities of Floydada, Silverton, and Tulia. Figures herein represent total content. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	3,127.0	-
Crest of spillway	3,111.0	57,770
Crest of spillway with ogee weir	3,100.0	46,080
Lowest gated outlet (invert)	2,961.0	17

COOPERATION.--The area and capacity tables 1-A and 1-C are provided by the MacKenzie Municipal Water Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 23,950 acre-ft Oct. 15, 1986 (elevation, 3,065.08 ft); minimum, 598 acre-ft Oct. 1, 2, 1974 (elevation, 2,980.61 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 23,950 acre-ft Oct. 15 at 0600 hours (elevation, 3,065.08 ft); minimum, 21,450 acre-ft Oct. 9 at 1200 hours (elevation, 3,060.05 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

3,060.0	21,420	3,064.0	23,400
3,061.0	21,910	3,065.0	23,910
3,062.0	22,400	3,066.0	24,430
3,063.0	22,900		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21520	23760	23530	23350	23180	23130	22900	22610	22510	23180	22510	22440
2	21510	23750	23520	23340	23180	23120	22900	22600	22670	23160	22470	22450
3	21500	23740	23510	23340	23170	23120	22870	22590	22680	23150	22540	22440
4	21490	23740	23500	23330	23170	23100	22860	22580	22950	23130	22620	22450
5	21480	23730	23490	23330	23170	23100	22850	22570	22970	23110	22610	22450
6	21470	23730	23490	23320	23170	23090	22850	22540	22970	23100	22600	22440
7	21460	23720	23480	23320	23190	23070	22840	22540	22960	23080	22590	22420
8	21450	23710	23470	23310	23190	23060	22820	22510	23170	23060	22570	22410
9	21750	23710	23470	23310	23190	23050	22820	22450	23210	23030	22550	22400
10	23200	23700	23460	23300	23200	23050	22820	22480	23200	23010	22540	22400
11	23670	23690	23460	23300	23200	23040	22810	22460	23190	22990	22530	22380
12	23860	23680	23450	23290	23190	23030	22800	22440	23180	22960	22510	22360
13	23930	23680	23450	23280	23180	23030	22790	22420	23170	22920	22480	22350
14	23950	23670	23440	23280	23190	23030	22770	22400	23150	22900	22470	22380
15	23950	23660	23440	23270	23190	23050	22760	22350	23140	22870	22490	22370
16	23900	23640	23430	23270	23190	23050	22760	22370	23120	22840	22480	22360
17	23840	23640	23430	23260	23190	23040	22750	22410	23110	22820	22470	22350
18	23840	23630	23420	23260	23190	23030	22720	22400	23210	22800	22460	22340
19	23840	23620	23420	23250	23180	23020	22720	22390	23200	22770	22450	22320
20	23830	23610	23410	23250	23180	23010	22720	22370	23200	22750	22430	22320
21	23830	23600	23410	23240	23170	23010	22710	22370	23190	22770	22490	22300
22	23830	23600	23400	23240	[illegible]	22990	22700	22340	23210	22750	22470	22300
23	23820	23590	23390	23230	23160	22970	22690	22320	23270	22730	22450	22290
24	23810	23580	23390	23230	23160	22960	22670	22350	23270	22710	22440	22280
25	23810	23580	23380	23220	23160	22960	22660	22350	23260	22690	22420	22270
26	23800	23560	23380	23220	23140	22960	22640	22350	23250	22670	22410	22250
27	23790	23560	23370	23210	23140	22950	22640	22340	23190	22630	22400	22240
28	23790	23550	23370	23200	23120	22940	22630	22330	23180	22610	22390	22230
29	23780	23540	23360	23190	---	22940	22620	22350	23210	22590	22370	22510
30	23770	23530	23360	23180	---	22930	22620	22310	23200	22570	22360	22540
31	23760	---	23350	23180	---	22910	---	22370	---	22540	22450	---
MAX	23950	23760	23530	23350	23200	23130	22900	22610	23270	23180	22620	22540
MIN	21450	23530	23350	23180	23120	22910	22620	22310	22510	22540	22360	22230
(†)	3064.71	3064.26	3063.90	3063.56	3063.44	3063.03	3062.45	3061.94	3063.59	3062.27	3062.09	3062.28
(ϕ)	+2230	-230	-180	-170	-60	-210	-290	-250	+830	-660	-90	+90
(‡)	86.6	91.5	120	119	106	138	171	205	151	313	194	124

CAL YR 1985 MAX 23950 MIN 11320 (ϕ) +11470 (‡) 1696
WTR YR 1986 MAX 23950 MIN 21450 (ϕ) +1010 (‡) 1819

(†) Elevation, in feet, at end of month.
(ϕ) Change in contents, in acre-feet.
(‡) Diversions, in acre-feet, for municipal use by the cities of Floydada, Silverton, and Tulia.

07298200 TULE CREEK NEAR SILVERTON, TX

LOCATION.--Lat 34°32'36", long 101°25'46", Briscoe County, Hydrologic Unit 11120104, at downstream side of bridge on State Highway 207, 0.1 mi downstream from Rock Creek, 1.0 mi downstream from MacKenzie Dam, 8.8 mi northwest of Silverton, 17.7 mi downstream from South Tule Draw, and 21.7 mi upstream from mouth.

DRAINAGE AREA.--1,150 mi^2, of which 960 mi^2 probably is noncontributing.

PERIOD OF RECORD.--July 1964 to September 1986 (discontinued).
Water-quality records.--Chemical analyses: October 1967 to September 1975. Water temperatures: October 1967 to September 1969.

REVISED RECORDS.--WDR TX 80-1: 1979.

GAGE.--Water-stage recorder. Datum of gage is 2,852.44 ft above State Department of Highways and Public Transportation datum.

REMARKS.--Estimated daily discharges Oct. 1-17. Records poor. Since June 1974, flow regulated by MacKenzie Reservoir 1.0 mi upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--9 years (water years 1965-73) prior to completion of MacKenzie Dam, 9.24 ft^3/s (6,690 acre-ft/yr); 13 years (water years 1974-86) regulated, 3.15 ft^3/s (2,280 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,800 ft^3/s May 20, 1977 (gage height, 14.5 ft, from floodmarks); no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1890, occurred in 1892 (stage and discharge unknown); second highest stage occurred September 1926 (stage and discharge unknown); third highest stage occurred May 10, 1934 (gage height, 20.3 ft), discharge unknown, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,540 ft^3/s Oct. 9 at time unknown (gage height, 7.87 ft); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.30	.30	.30	.30	.10	.00	1.6	66	.00	.00	.40
2	.00	.30	.30	.30	.30	.10	.00	.00	31	.00	.00	4.9
3	.00	.30	.30	.30	.30	.10	.00	.00	.82	2.1	3.4	.02
4	.00	.30	.30	.30	.30	.10	.00	.00	41	.00	6.2	3.4
5	.00	.30	.30	.30	34	.10	.00	.00	.42	.00	.00	.02
6	.00	.30	.30	.30	44	.10	.00	.00	.00	.00	.00	.00
7	.00	.30	.30	.30	145	.10	.00	.00	.00	.00	5.2	.00
8	.00	.30	.30	.30	38	.10	.00	.00	77	.00	.00	.00
9	486	.30	.30	.30	3.1	.10	.00	.00	54	.00	.22	.00
10	344	.30	.30	.30	.81	.10	.00	.00	.23	.00	1.3	.00
11	11	.30	.30	.30	.40	.10	.00	.00	.00	.00	.00	.00
12	.74	.30	.30	.30	.40	.10	.00	.00	.00	.00	.00	.00
13	.40	.30	.30	.30	118	.10	.00	.00	.00	.00	.00	.00
14	.40	23	.30	.30	131	14	.00	.00	.00	.00	.00	7.4
15	.40	1.0	.30	.30	51	137	.00	.00	14	.00	12	.00
16	.40	.57	.30	.30	13	39	28	13	.00	.00	.00	.00
17	9.8	.40	.30	.30	.75	8.1	21	62	.00	.00	.00	.00
18	.58	.35	.30	.30	.40	2.9	.00	18	27	.00	.00	.00
19	.40	.30	.30	.30	.40	.97	35	.00	7.3	.00	.00	.00
20	.35	.30	.30	.30	.22	.25	59	.00	34	.00	.00	.00
21	.32	.30	.30	.30	.10	.15	.73	.00	13	3.0	4.6	.00
22	.30	.30	.30	.30	.10	.10	.00	.00	12	2.6	.00	.00
23	.30	.30	.30	.30	.10	.08	.00	.00	1.2	.00	.00	.50
24	.30	.30	.30	.30	.10	.07	.00	15	.02	.00	.00	4.0
25	.30	.30	.30	.30	.10	.06	.00	16	.00	.00	.00	.00
26	.30	.30	.30	.30	.10	.05	.00	2.5	.00	.00	.00	.00
27	.30	.30	.30	.30	.10	.04	92	.00	.00	.00	2.2	.00
28	.30	.30	.30	.30	.10	.03	7.0	.00	.00	.00	.18	.00
29	.30	.30	.30	.30	---	.02	39	25	.00	.00	.00	4.4
30	.30	.30	.30	.30	---	.01	48	.49	.00	.00	2.7	.00
31	.30	---	.30	.30	---	.00	---	.00	---	.00	32	---
TOTAL	857.79	32.82	9.30	9.30	582.48	204.13	329.73	153.59	378.99	7.70	70.00	25.04
MEAN	27.7	1.09	.30	.30	20.8	6.58	11.0	4.95	12.6	.25	2.26	.83
MAX	486	23	.30	.30	145	137	92	62	77	3.0	32	7.4
MIN	.00	.30	.30	.30	.10	.00	.00	.00	.00	.00	.00	.00
AC-FT	1700	65	18	18	1160	405	654	305	752	15	139	50

CAL YR 1985 TOTAL 3257.61 MEAN 8.92 MAX 999 MIN .00 AC-FT 6460
WTR YR 1986 TOTAL 2660.87 MEAN 7.29 MAX 486 MIN .00 AC-FT 5280

07299540 PRAIRIE DOG TOWN FORK RED RIVER NEAR CHILDRESS, TX
(National stream-quality accounting network station)

LOCATION.--Lat 34°34'09", long 100°11'37", Childress County, Hydrologic Unit 11120105, on left bank at downstream side of bridge on U.S. Highways 62 and 83, 3.1 mi downstream from Salt Creek, 10.0 mi north of Childress, and at mile 1,061.

DRAINAGE AREA.--7,725 mi², of which 4,769 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1964 to March 1965 (gage heights only), April 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,628.4 ft above National Geodetic Vertical Datum of 1929 (from Texas State Department of Highways and Public Transportation bench mark).

REMARKS.--Estimated daily discharges: Oct. 10-16, Oct. 31 to Mar. 18, July 7-10, 20-23, Aug. 14-20, and Sept. 18-30. Records fair except those for estimated discharges, which are poor. Many small diversions upstream from station. Flow is affected at times by discharge from the flood-detention pools of 23 floodwater-retarding structures with a combined detention capacity of 20,010 acre-ft. These structures control runoff from 95.2 mi² in the drainage basin.

AVERAGE DISCHARGE.--21 years (water years 1966-86), 106 ft³/s (76,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 86,400 ft³/s May 28, 1978 (gage height, 13.47 ft, from floodmark), from rating curve extended above 33,000 ft³/s; maximum gage height, 13.94 ft May 21, 1977; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1899, 16.9 ft in May or June 1957, from information by local residents and State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft³/s and maxmimum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 10	Unknown	8,320	9.60	Aug. 31	1830	*22,800	*11.20

Minimum daily discharge, 1.1 ft³/s July 25, 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	145	46	39	26	8.2	10	8.2	18	520	92	1.3	2020
2	76	42	39	21	9.7	9.5	213	7.0	689	47	1.3	1220
3	68	45	39	26	14	9.0	114	3.8	157	22	3.3	919
4	54	48	36	21	21	8.5	42	2.8	803	11	2.7	905
5	42	64	45	17	21	8.0	30	4.9	639	7.1	1.6	1110
6	33	47	45	17	30	7.5	26	1.8	108	4.4	1.3	972
7	26	33	30	14	48	7.0	28	1.7	41	4.5	1.6	528
8	17	28	30	17	54	6.5	17	2.5	23	3.8	2.0	428
9	172	26	30	17	64	6.0	28	2.1	67	3.2	1.8	402
10	1830	14	21	17	76	6.0	33	3.1	603	1.8	38	315
11	517	9.7	21	21	100	7.0	36	2.6	102	1.9	17	237
12	822	22	21	17	119	8.0	39	2.1	27	1.8	9.3	206
13	356	35	21	17	144	9.0	30	2.0	5.8	1.6	6.3	207
14	292	96	28	17	193	10	9.7	2.4	1.5	1.7	4.1	320
15	258	88	36	17	206	11	12	2.7	3.6	1.7	3.7	997
16	206	80	48	14	162	10	9.7	2.7	44	1.7	3.8	342
17	220	72	72	17	88	10	17	493	33	1.8	4.7	122
18	242	64	61	21	72	6.8	9.7	214	232	1.9	4.7	35
19	174	42	51	14	64	5.6	27	22	158	1.8	5.2	4.0
20	134	39	51	14	51	4.2	53	8.6	74	1.8	4.9	2.8
21	129	33	51	11	48	4.6	22	2.4	295	1.8	2.4	1.8
22	105	33	51	8.2	39	4.6	8.2	2.2	263	1.8	349	1.8
23	105	33	45	4.6	33	3.8	6.8	1.8	687	1.8	297	1.8
24	119	33	30	3.8	25	3.2	14	1.5	99	1.5	191	1.8
25	105	39	30	3.8	20	3.2	4.1	66	32	1.1	179	20
26	80	51	21	3.2	15	5.6	6.6	159	17	1.2	159	8.0
27	61	48	17	2.7	12	5.6	67	29	9.4	1.2	1210	2.2
28	84	45	17	4.6	11	5.6	12	7.6	7.6	1.2	901	1.8
29	47	42	26	4.6	---	6.8	9.0	3.4	6.1	1.3	252	1.8
30	28	42	28	5.6	---	6.8	16	7.9	3.0	1.2	188	10
31	42	---	28	6.8	---	9.7	---	11	---	1.1	10200	---
TOTAL	6589	1339.7	1108	420.9	1747.9	219.1	948.0	1091.6	5750.0	229.7	14047.0	11342.8
MEAN	213	44.7	35.7	13.6	62.4	7.07	31.6	35.2	192	7.41	453	378
MAX	1830	96	72	26	206	11	213	493	803	92	10200	2020
MIN	17	9.7	17	2.7	8.2	3.2	4.1	1.5	1.5	1.1	1.3	1.8
AC-FT	13070	2660	2200	835	3470	435	1880	2170	11410	456	27860	22500

CAL YR 1985	TOTAL	63955.31	MEAN	175	MAX	11700	MIN	.02	AC-FT	126900
WTR YR 1986	TOTAL	44833.7	MEAN	123	MAX	10200	MIN	1.1	AC-FT	88930

07299540 PRAIRIE DOG TOWN FORK RED RIVER NEAR CHILDRESS, TX--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: September 1948 to April 1963, January 1969 to September 1986. Chemical and biochemical analyses: January 1978 to September 1986.

INSTRUMENTATION.--Specific conductance was recorded continuously at this station from December 1968 to September 1982.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1968 to September 1982.
WATER TEMPERATURES: July 1968 to September 1982.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 98,100 microsiemens June 18, July 8, and Aug. 9, 1970; minimum daily, 3,000 microsiemens Aug. 13, 1971.
WATER TEMPERATURES: Maximum daily 40.0°C July 24, 1980; minimum daily, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
NOV 12...	1330	28	44600	7.80	11.0	13	12.0	140	1.2	K50	160	4200
JAN 15...	0830	17	57500	7.60	2.5	0.6	14.7	149	1.9	K8	K28	4500
MAR 18...	1220	8.9	59900	7.80	14.0	3.5	6.8	92	1.4	<4	K23	4700
MAY 06...	1115	2.2	77000	7.80	27.0	1.5	5.4	100	2.4	<4	K9	5600
JUL 22...	1720	1.8	77700	7.50	35.0	--	7.8	--	1.8	K9	81000	5500
AUG 25...	1015	193	23000	7.80	23.5	16000	6.7	92	2.0	1500	K240	2000

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
NOV 12...	4000	1200	280	10000	70	29	122	3000	17000	0.6	14	31400
JAN 15...	4400	860	580	14000	93	35	122	3900	22000	0.6	12	41100
MAR 18...	4600	1300	350	15000	99	37	123	4400	24000	0.6	12	42700
MAY 06...	5500	1600	380	19000	120	45	96	4600	31000	0.6	9.3	57900
JUL 22...	5500	1600	370	20000	120	45	68	4900	33000	0.8	8.3	59900
AUG 25...	1900	600	120	4700	48	24	92	1900	7700	0.8	12	15700

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4)
NOV 12...	32000	0.27	0.01	0.28	0.76	0.73	0.0	0.5	0.02	<0.01	<0.01	--
JAN 15...	41000	0.33	0.02	0.35	0.50	0.50	0.0	0.5	0.01	<0.01	0.01	0.03
MAR 18...	45000	0.22	0.02	0.24	0.99	0.85	0.0	0.9	0.02	<0.01	<0.01	--
MAY 06...	57000	--	0.01	<0.10	0.58	0.52	0.42	1.0	0.02	0.01	<0.01	--
JUL 22...	60000	--	0.02	<0.10	1.30	1.40	0.0	0.7	0.05	0.02	<0.01	--
AUG 25...	15000	0.86	0.04	0.90	0.26	0.31	--	--	--	0.15	0.02	0.06

07299540 PRAIRIE DOG TOWN FORK RED RIVER NEAR CHILDRESS, TX--Continued
(National stream-quality accounting network station)

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
NOV												
12...	79	6.0	59	<10	3	<100	<10	<1	<1	<1	<1	120
JAN												
15...	14	0.64	65	--	--	--	--	--	--	--	--	--
MAR												
18...	46	1.1	64	20	2	100	10	<1	<1	<1	1	220
MAY												
06...	13	0.08	69	--	--	--	--	--	--	--	--	--
JUL												
22...	18	0.09	38	60	3	200	20	<1	<1	<1	2	320
AUG												
25...	21500	11200	89	--	--	--	--	--	--	--	--	--

DATE	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
NOV											
12...	<1	170	130	0.2	4	2	2	<1	15000	250	30
JAN											
15...	--	--	--	--	--	--	--	--	--	--	--
MAR											
18...	<1	220	150	<0.1	6	1	3	<1	13000	370	30
MAY											
06...	--	--	--	--	--	--	--	--	--	--	--
JUL											
22...	<5	220	110	0.2	5	1	<1	<1	20000	<200	60
AUG											
25...	--	--	--	--	--	--	--	--	--	--	--

07299570 RED RIVER NEAR QUANAH, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 34°24'47", long 99°44'03", Hardeman County, on right bank at downstream side of bridge on State Highway 6 8 mi north of Quanah, 30 mi upstream from Salt Fork Red River, and at mile 1,030.

DRAINAGE AREA.--8,321 mi², of which 4,769 mi² is probably noncontributing.

PERIOD OF RECORD.--November 1959 to September 1982 (continuous-record station), October 1983 to current year.

EXTREMES.--Maximum discharge, 29,500 ft³/s Oct. 10 (gage height, 11.95 ft).

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1969 to September 1973. Pesticide analyses: March 1968 to September 1973. Sediment records: May 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM
MAY							
20...	1205	80	20500	22.0	1910	413	--
20...	1300	800	--	24.0	7050	15200	73
JUN							
26...	1310	60	14800	29.5	3160	512	--
SEP							
15...	1015	80	16700	23.5	2280	492	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM
MAY						
20...	--	--	--	--	94	--
20...	76	97	98	98	99	100
JUN						
26...	--	--	--	--	100	--
SEP						
15...	--	--	--	--	67	--

07299670 GROESBECK CREEK AT STATE HIGHWAY 6 NEAR QUANAH, TX

LOCATION.--Lat 34°21'16", long 99°44'24", Hardeman County, Hydrologic Unit 11130101, near left bank at downstream side of bridge on State Highway 6, 2 mi downstream from confluence of North and South Groesbeck Creeks, 4 mi north of Quanah, and 9 mi upstream from mouth.

DRAINAGE AREA.--303 mi^2.

PERIOD OF RECORD.--November 1961 to current year. Prior to October 1974, published as "at State Highway 283".

GAGE.--Water-stage recorder. Datum of gage is 1,425.69 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. There are several diversions upstream from station for farm and ranch use and for a gypsum plant. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--24 years (water years 1963-86), 14.4 ft^3/s (0.65 in/yr), 10,430 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft^3/s Oct. 20, 1983 (gage height, 24.78 ft), from rating curve extended above 7,970 ft^3/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--The highest stage known occurred in June 1891; and the highest stage since 1891 occurred in September 1929, stages unknown. Other large floods are reported to have occurred in 1912, 1936, 1946, 1951, 1955, and 1957, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 2	2130	1,020	14.72	Sept 29	1500	*2,830	17.68

Minimum discharge, 2.2 ft^3/s Aug. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	8.0	7.3	5.4	6.4	6.9	6.1	6.8	5.7	4.5	4.5	5.2
2	12	8.0	7.1	5.3	6.2	6.9	6.6	7.7	5.5	566	4.4	5.2
3	9.0	7.7	7.1	5.5	6.4	6.8	7.0	7.2	5.1	310	3.7	5.8
4	7.1	8.0	6.6	6.2	6.4	6.9	6.5	6.8	5.2	27	2.9	8.0
5	5.6	8.0	6.3	6.8	6.3	7.0	6.2	6.6	68	16	4.0	9.6
6	5.1	8.0	6.2	6.4	6.5	6.7	6.3	6.5	13	10	4.1	8.6
7	5.0	7.7	7.7	6.2	6.7	6.7	6.5	6.2	7.0	7.8	4.4	6.4
8	4.8	7.7	15	6.5	7.1	6.8	6.3	6.1	6.4	6.6	4.2	5.6
9	5.0	8.0	13	6.1	6.5	7.0	6.4	5.7	5.9	6.9	4.2	5.5
10	163	8.0	9.6	6.2	6.4	6.9	6.7	6.5	5.8	7.8	4.4	5.6
11	435	8.0	8.3	5.4	6.2	7.1	6.5	4.7	4.7	6.4	4.2	5.6
12	99	8.0	7.4	6.5	6.2	7.2	6.7	4.7	4.6	6.0	4.8	5.4
13	16	8.0	7.0	7.7	6.1	7.2	6.8	5.6	4.6	5.7	4.4	5.4
14	10	8.0	6.6	7.3	6.0	7.2	6.5	6.4	4.5	5.5	3.6	5.6
15	9.3	77	6.2	6.5	5.9	8.2	6.5	6.9	4.6	5.2	4.2	7.3
16	8.0	117	6.3	6.6	5.9	8.2	6.5	7.3	4.8	5.1	4.2	8.4
17	12	17	6.3	6.6	5.9	7.4	6.5	5.6	4.7	5.0	4.0	7.7
18	595	11	6.0	6.3	6.0	7.1	6.8	5.8	4.8	4.9	5.0	8.5
19	268	9.3	6.0	6.3	6.5	6.5	6.9	5.8	5.6	4.9	4.8	7.5
20	37	9.0	6.0	7.0	6.2	6.5	7.2	5.3	5.1	4.8	4.2	5.7
21	17	8.0	6.0	6.6	6.5	6.7	7.1	5.7	4.8	4.8	4.7	5.1
22	14	6.8	5.8	6.3	6.5	6.9	6.5	7.3	4.7	5.4	4.6	4.8
23	11	7.7	6.0	5.9	6.5	6.2	6.1	5.1	4.7	5.4	4.4	4.8
24	9.0	7.4	6.0	5.9	6.4	6.6	6.2	4.8	4.8	5.4	4.3	4.8
25	8.3	7.7	6.0	6.1	6.3	6.7	6.0	8.4	4.6	5.5	4.2	4.8
26	8.3	7.8	5.9	6.1	6.5	6.7	6.1	5.4	4.6	5.0	4.3	4.4
27	8.0	7.7	5.8	6.0	6.9	6.8	7.2	6.6	4.3	4.8	4.6	4.5
28	8.0	7.6	6.1	6.1	6.7	6.9	7.2	13	4.3	4.9	6.7	4.5
29	8.0	7.4	5.5	6.1	---	6.6	6.8	12	4.2	4.7	5.6	1460
30	8.0	7.7	5.5	6.2	- -	6.0	6.6	8.2	4.2	4.6	4.4	1290
31	8.0	---	5.6	6.2	---	6.0	---	6.6	---	4.9	5.1	---
TOTAL	1863.5	427.2	216.2	194.3	178.1	213.3	197.3	207.3	220.8	1071.5	137.1	2920.3
MEAN	60.1	14.2	6.97	6.27	6.36	6.88	6.58	6.69	7.36	34.6	4.42	97.3
MAX	595	117	15	7.7	7.1	8.2	7.2	13	68	566	6.7	1460
MIN	4.8	6.8	5.5	5.3	5.9	6.0	6.0	4.7	4.2	4.5	2.9	4.4
CFSM	.20	.05	.02	.02	.02	.02	.02	.02	.02	.11	.01	.32
IN.	.23	.05	.03	.02	.02	.03	.02	.03	.03	.13	.02	.36
AC-FT	3700	847	429	385	353	423	391	411	438	2130	272	5790

CAL YR 1985 TOTAL 5591.1 MEAN 15.3 MAX 595 MIN 2.1 CFSM .05 IN. .69 AC-FT 11090
WTR YR 1986 TOTAL 7846.9 MEAN 21.5 MAX 1460 MIN 2.9 CFSM .07 IN. .96 AC-FT 15560

07299840 GREENBELT LAKE NEAR CLARENDON, TX

LOCATION.--Lat 35°00'02", long 100°53'40", Donley County, Hydrologic Unit 11120201, on upstream side near right end of dam on Salt Fork Red River and 4.3 mi north of Clarendon.

DRAINAGE AREA.--457 mi², of which 191 mi² probably is noncontributing.

PERIOD OF RECORD.--August 1967 to current year. Prior to October 1973, published as Greenbelt Reservoir.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Freese and Nichols, Inc., Consulting Engineers bench mark).

REMARKS.--The lake is formed by a rolled earthfill dam 5,800 ft long. Deliberate impoundment began Dec. 5, 1966, and the dam was completed in August 1967. The dam is the property of Greenbelt Municipal and Industrial Water Authority and was built to impound water for municipal and industrial uses by the cities of Childress, Clarendon, Crowell, Hedley, and Quanah. The spillway is an uncontrolled open cut through natural ground, 1,450 ft wide and located at the left end of dam, designed to discharge 184,000 ft³/s at an elevation of 2,684.0 ft. A morning-glory-type drop inlet with a 26-foot 8.5-inch-diameter opening at crest discharges into a 7- by 7-foot concrete conduit. The outlet works consists of a 36-inch pipe that is controlled by two 20-inch valves that control the discharge into a stilling basin and to a water treatment plant. The capacity table, dated April 1964, is based on Geological Survey topographic maps dated 1962. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	2,686.0	-
Design flood..	2,683.0	105,600
Crest of spillway...	2,674.0	81,760
Crest of morning-glory-type drop inlet..............................	2,663.65	59,110
Lowest gated outlet (invert)..	2,597.0	900

COOPERATION.--Records of diversion and capacity table provided by Greenbelt Municipal and Industrial Water Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 44,650 acre-ft June 26-28, 1975 (elevation, 2,655.71 ft); minimum, 2,950 acre-ft Aug. 29, 30, 1967 (elevation, 2,607.37 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 30,740 acre-ft June 15 at 2100 hours (elevation, 2,642.29 ft); minimum, 24,840 acre-ft Oct. 4, 8 (elevation, 2,641.33 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

2,641.0	24,480	2,645.0	29,120
2,642.0	25,580	2,646.0	30,370
2,643.0	26,720	2,647.0	31,660
2,644.0	27,900		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24950	30360	30220	30370	30310	30580	30420	30050	30410	30380	28960	29110
2	24950	30360	30200	30350	30330	30590	30460	30050	30430	30370	28910	29160
3	24950	30360	30220	30320	30360	30580	30370	30050	30430	30350	28960	29230
4	24890	30370	30230	30320	30330	30590	30370	30020	30430	30320	28960	29500
5	24900	30370	30230	30360	30350	30560	30370	29970	30460	30270	28910	29550
6	24890	30310	30250	30330	30350	30580	30380	29910	30490	30230	28850	29530
7	24890	30320	30230	30280	30380	30520	30360	29870	30470	30200	28850	29500
8	24840	30350	30230	30310	30410	30590	30320	29860	30450	30150	28800	29500
9	25200	30280	30230	30310	30430	30580	30310	29820	30590	30110	28800	29510
10	29500	30260	30210	30310	30430	30550	30320	29800	30590	30050	28800	29500
11	29900	30260	30230	30310	30460	30550	30330	29770	30560	30000	28790	29460
12	30130	30300	30230	30310	30450	30520	30330	29730	30550	29930	28750	29410
13	30220	30320	30250	30330	30540	30510	30320	29680	30500	29880	28710	29410
14	30250	30280	30270	30310	30520	30520	30270	29750	30460	29810	28710	29650
15	30270	30300	30280	30330	30600	30590	30260	29770	30690	29760	28710	29680
16	30300	30310	30270	30330	30620	30590	30250	29900	30670	29700	28720	29680
17	30320	30330	30280	30330	30620	30600	30270	29950	30670	29650	28680	29670
18	30360	30310	30280	30320	30620	30550	30220	30030	30640	29570	28600	29650
19	30330	30230	30300	30330	30680	30540	30200	30030	30650	29510	28580	29630
20	30350	30220	30310	30350	30550	30590	30230	30050	30650	29460	28560	29610
21	30360	30230	30320	30320	30560	30540	30230	30030	30670	29450	28500	29610
22	30400	30230	30330	30310	30600	30580	30220	30000	30650	29480	28460	29600
23	30370	30230	30350	30330	30620	30520	30210	29950	30560	29470	28420	29570
24	30370	30250	30320	30310	30630	30540	30200	30000	30540	29430	28400	29530
25	30400	30270	30310	30300	30630	30540	30150	30120	30510	29360	28350	29510
26	30400	30250	30320	30280	30640	30510	30130	30210	30490	29350	28310	29500
27	30400	30250	30310	30310	30560	30520	30110	30250	30450	29280	28300	29480
28	30400	30230	30320	30320	30580	30500	30120	30250	30400	29230	28250	29460
29	30360	30230	30330	30310	---	30490	30100	30260	30400	29170	28220	29510
30	30350	30250	30360	30330	---	30490	30080	30270	30360	29100	28210	29730
31	30350	---	30360	30330	---	30510	---	30280	---	29030	29060	---
MAX	30400	30370	30360	30370	30680	30600	30460	30280	30690	30380	29060	29730
MIN	24840	30220	30200	30280	30310	30490	30080	29680	30360	29030	28210	29110
(†)	2645.98	2645.90	2645.99	2645.97	2646.16	2646.11	2645.77	2645.93	2645.99	2644.93	2644.95	2645.49
(ϕ)	+5420	-100	+110	-30	+250	-70	-430	+200	+80	-1330	+30	+670
(‡)	265	246	275	291	248	306	317	343	338	501	430	281

CAL YR 1985 MAX 30400 MIN 23230 (ϕ) +7090 (‡) 3907
WTR YR 1986 MAX 30690 MIN 24840 (ϕ) +4800 (‡) 3841

(†) Elevation, in feet, at end of month.
(ϕ) Change in contents, in acre-feet.
(‡) Diversions, in acre-feet, for municipal and industrial uses by Greenbelt Municipal Water Authority.

07300000 SALT FORK RED RIVER NEAR WELLINGTON, TX

LOCATION.--Lat 34°57'27", long 100°13'14", Collingsworth County, Hydrologic Unit 11120202, near center of stream at downstream side of bridge on U.S. Highway 83, 4 mi downstream from Fort Worth and Denver (Burlington) Railway Co. bridge, 4.5 mi south of Lutie, and 7.2 mi north of Wellington.

DRAINAGE AREA.--1,222 mi^2, of which 209 mi^2 probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,941.41 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 1-3, Jan. 7, and Feb. 8-11. Records fair except those for periods of estimated daily discharges, which are poor. Several small diversions upstream from gage for irrigation. There is some regulation for municipal use by Greenbelt Lake (station 07299840), capacity 59,100 acre-feet 42 mi upstream.

AVERAGE DISCHARGE.--14 years (water years 1953-66) prior to completion of Greenbelt Lake, 72.6 ft^3/s (52,600 acre-ft/yr); 20 years (water years 1967-86) regulated, 43.9 ft^3/s (31,810 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 146,000 ft^3/s May 16, 1957 (gage height, 19.00 ft), from rating curve extended above 11,000 ft^3/s on basis of slope-area measurement of 63,400 ft^3/s; minimum, 0.1 ft^3/s June 19, 1952.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,300 ft^3/s Aug. 31 at time unknown (gage height, 7.91 ft, from floodmark); minimum daily, 2.5 ft^3/s July 30, Aug. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	30	16	33	26	16	11	10	416	13	2.6	250
2	12	33	17	33	27	18	12	9.3	229	13	2.5	133
3	12	32	18	31	32	18	14	8.1	162	9.0	6.4	108
4	8.3	26	27	28	33	19	13	7.6	234	7.5	3.9	110
5	7.6	25	33	24	28	21	15	7.3	251	5.6	3.4	271
6	7.4	22	29	26	29	19	16	6.3	136	4.2	3.2	148
7	7.6	18	25	25	40	19	16	5.7	61	3.4	3.4	103
8	7.3	17	21	23	35	20	14	6.2	29	2.8	3.9	87
9	56	16	21	25	35	19	13	5.0	57	3.3	5.1	78
10	1270	14	22	29	30	17	15	4.9	284	4.0	5.1	69
11	434	14	16	37	25	15	18	5.1	82	4.2	4.2	61
12	320	17	18	41	57	15	23	5.0	40	3.1	3.4	45
13	142	18	20	36	75	18	21	4.7	27	2.9	2.8	40
14	58	104	20	32	129	18	14	6.4	15	2.6	255	40
15	47	45	22	29	92	22	11	9.7	135	2.7	243	325
16	41	35	31	29	77	31	11	12	78	2.8	38	120
17	43	31	55	27	48	35	12	885	38	2.8	18	87
18	67	28	52	32	33	27	10	138	76	2.7	9.0	65
19	46	18	37	34	30	19	12	38	126	2.8	13	58
20	40	14	28	37	28	14	16	17	73	3.3	9.9	50
21	38	12	29	31	24	17	13	9.9	271	3.3	8.4	45
22	34	14	25	24	27	20	12	7.5	92	3.2	7.6	43
23	31	14	24	22	27	21	10	6.8	48	3.4	6.9	113
24	28	13	22	21	25	19	8.5	5.6	33	3.1	6.9	154
25	32	13	22	21	25	20	7.6	1290	33	3.1	6.5	73
26	34	13	24	19	24	19	8.8	291	33	2.9	6.5	54
27	37	13	28	18	21	16	12	232	14	2.8	18	54
28	34	12	33	23	17	10	10	92	11	2.7	14	54
29	32	14	33	29	---	8.7	9.2	61	8.2	2.7	11	69
30	29	18	31	25	---	9.6	10	73	7.5	2.5	10	92
31	29	---	35	25	---	11	---	65	---	2.7	2120	---
TOTAL	3000.2	693	834	869	1099	571.3	388.1	3325.1	3099.7	128.1	2851.6	2999
MEAN	96.8	23.1	26.9	28.0	39.3	18.4	12.9	107	103	4.13	92.0	100
MAX	1270	104	55	41	129	35	23	1290	416	13	2120	325
MIN	7.3	12	16	18	17	8.7	7.6	4.7	7.5	2.5	2.5	40
AC-FT	5950	1370	1650	1720	2180	1130	770	6600	6150	254	5660	5950

CAL YR 1985 TOTAL 16176.08 MEAN 44.3 MAX 1360 MIN .40 AC-FT 32090
WTR YR 1986 TOTAL 19858.1 MEAN 54.4 MAX 2120 MIN 2.5 AC-FT 39390

07300000 SALT FORK RED RIVER NEAR WELLINGTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: February 1951 to October 1954, October 1967 to current year. Chemical and biochemical analyses: October 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to current year.
WATER TEMPERATURES: October 1967 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 4,340 microsiemens July 15, 1984; minimum daily, 330 microsiemens July 30, 1982.
WATER TEMPERATURES: Maximum daily, 40.0°C July 20, 1981; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 3,950 microsiemens Mar. 31; minimum daily, 1,150 microsiemens Oct. 10.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 12...	0830	18	3450	8.00	8.5	3	2.4	14.1	--	1.0	K50	84
JAN 14...	1500	27	3300	7.70	12.0	7	3.5	11.1	114	1.0	K15	K12
MAR 18...	0845	27	3100	7.70	7.5	2	5.2	10.2	--	0.4	320	160
MAY 06...	0845	6.3	3220	7.70	17.0	3	1.4	8.8	101	0.5	1100	210
JUL 22...	1345	3.1	3270	8.10	28.0	5	1.6	8.9	--	0.5	200	140
AUG 25...	1330	103	3170	8.00	29.5	5	1.6	7.1	--	1.2	K10	610
31...	1230	1960	1540	7.70	18.0	--	--	--	--	--	--	--

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
NOV 12...	1400	1200	400	91	250	3	4.1	160	1300	360	0.6	18
JAN 14...	1300	1100	370	90	260	3	4.0	149	1300	360	0.3	18
MAR 18...	1300	1200	380	85	240	3	4.6	147	1200	340	0.7	20
MAY 06...	1700	1500	530	85	170	2	3.8	169	1500	260	0.5	17
JUL 22...	1700	1600	530	90	190	2	3.9	112	1600	250	0.6	21
AUG 25...	1700	1500	530	80	190	2	4.2	140	1600	270	0.6	21
31...	570	460	170	35	120	2	4.6	105	520	160	0.4	12

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 12...	2500	3	2	--	<0.01	1.30	0.23	0.17	0.4	<0.01	1.2
JAN 14...	2500	10	1	1.09	0.01	1.10	0.12	0.38	0.5	<0.01	1.7
MAR 18...	2400	13	4	--	<0.01	0.80	0.16	0.14	0.3	<0.01	1.9
MAY 06...	2700	2	2	1.67	0.03	1.70	0.29	0.01	0.3	<0.01	1.3
JUL 22...	2800	2	1	1.87	0.03	1.90	0.03	0.47	0.5	<0.01	1.5
AUG 25...	2800	6	1	1.58	0.02	1.60	0.17	0.13	0.3	0.01	1.2
31...	1100	--	--	--	--	--	--	--	--	--	--

07300000 SALT FORK RED RIVER NEAR WELLINGTON, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	3000.2	1880	1420	11500	170	1370	800	6480	860
NOV. 1985	693	3120	2520	4720	280	516	1400	2570	1500
DEC. 1985	834	3000	2410	5430	270	600	1300	2960	1500
JAN. 1986	869	3040	2440	5730	270	632	1300	3120	1500
FEB. 1986	1099	2760	2170	6450	250	730	1200	3550	1300
MAR. 1986	571.3	3220	2620	4040	280	438	1400	2190	1600
APR. 1986	388.1	3390	2790	2920	300	312	1500	1570	1700
MAY 1986	3325.1	1570	1140	10200	140	1290	660	5880	690
JUNE 1986	3099.7	1930	1440	12000	180	1470	820	6830	880
JULY 1986	128.1	3130	2540	878	280	96	1400	477	1500
AUG. 1986	2851.6	1600	1170	8990	150	1130	670	5160	710
SEPT 1986	2999	2290	1760	14200	210	1670	980	7950	1100
TOTAL	19858.1	**	**	87200	**	10300	**	48800	**
WTD.AVG.	54	2120	1630	**	190	**	910	**	990

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3490	3310	3470	3020	3090	3150	3370	3420	1540	3010	3260	1680
2	3710	3160	3730	3010	3070	3180	3220	3350	1820	2980	3450	1970
3	3600	3060	3550	3040	2980	3100	3280	3410	2050	3000	3640	2160
4	3600	3180	3250	3110	2920	3070	3320	3390	1950	3040	3190	2140
5	3590	3250	2620	3100	2960	3190	3350	3360	1700	3090	3140	1880
6	3580	3340	2700	2990	2930	3150	3360	3200	2070	3130	3030	2160
7	3540	3310	2950	3130	2340	3190	3300	3020	2420	3150	3200	2490
8	3470	3350	3010	3210	2660	3210	3310	3150	2750	3160	3390	2560
9	2940	3370	3040	3160	2750	3240	3270	3320	2670	3170	3280	2670
10	1150	3380	3150	2950	2820	3250	3330	3300	1300	3110	3260	2740
11	1520	3370	3310	2860	2920	3260	3450	3250	1860	3310	3450	2970
12	1940	3360	3270	2710	2800	3270	3400	3280	2240	3150	3080	3190
13	2380	3390	3130	2930	2640	3220	3490	3240	2660	3140	3500	3320
14	2730	2650	3560	3020	2390	3230	3390	3140	2950	3120	1160	3450
15	2830	2890	3200	2990	2570	3260	3340	3090	1710	3110	1210	1790
16	2870	2990	3010	3030	2610	3080	3320	2820	1940	3130	2470	2190
17	2960	3100	2480	3040	2700	2990	3300	1340	2490	3210	2980	2560
18	2800	3150	2550	3060	2810	3100	3450	1790	2460	3300	3400	2750
19	2880	3180	2720	3020	2910	3200	3570	2140	2330	3250	3470	2890
20	3030	3250	2930	3040	2970	3220	3410	2410	2580	3140	3370	3560
21	3070	3320	2920	3070	3020	3190	3340	2650	1670	3120	3340	3240
22	3100	3300	2900	3100	2990	3160	3480	2710	2050	3300	3310	3050
23	3140	3250	2990	3160	2980	3150	3440	2770	2710	3110	3300	2270
24	3190	3200	3020	3090	2960	3270	3450	2840	2740	3390	3250	2090
25	3250	3170	3150	3120	2970	3340	3430	1370	2950	3340	3170	2500
26	3200	3110	3120	3100	2980	3300	3340	1450	3000	3280	3260	2960
27	3140	3300	3100	3130	3050	3360	3500	1590	3090	3200	2550	3030
28	3220	3390	3110	3110	3130	3400	3480	2030	3050	3160	3000	3050
29	3200	3170	3130	3000	---	3360	3370	2340	3220	3140	3430	2470
30	3250	3260	3060	3120	---	3800	3540	2430	3170	3400	3340	1500
31	3260	---	3190	3200	---	3950	---	2400	---	3390	1540	---
MEAN	3020	3220	3070	3050	2850	3250	3390	2710	2370	3180	3050	2580

07300000 SALT FORK RED RIVER NEAR WELLINGTON, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1936
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	13.0	---	12.0	18.0	---	18.0	---	---	---	35.0	---
2	20.0	15.0	8.0	---	---	17.0	23.0	24.0	27.0	---	---	19.0
3	12.0	13.0	8.5	9.0	15.0	---	---	27.0	32.0	---	32.0	---
4	17.0	18.0	9.0	6.0	17.0	7.0	19.0	---	20.0	---	31.0	---
5	20.0	12.0	---	8.0	9.0	11.0	---	30.0	20.0	---	33.0	21.0
6	24.0	13.0	11.0	10.0	---	5.0	25.0	21.0	---	---	34.0	22.0
7	24.0	8.0	13.0	---	---	12.0	25.0	25.0	---	---	---	18.0
8	18.0	15.0	3.0	4.0	---	---	20.0	---	---	24.0	33.0	15.0
9	20.0	10.0	12.0	---	1.0	---	18.0	25.0	28.0	26.0	---	28.0
10	19.0	---	---	10.0	1.0	19.0	---	26.0	28.0	21.0	27.0	26.0
11	---	---	---	13.0	1.0	20.0	14.0	---	---	32.0	---	---
12	---	---	.0	14.0	3.0	20.0	---	26.0	19.0	22.0	26.0	26.0
13	---	---	3.0	---	---	---	24.0	27.0	34.0	---	33.0	---
14	15.0	---	.0	8.0	9.0	18.0	20.0	27.0	30.0	29.0	---	---
15	20.0	---	7.0	13.0	12.0	27.0	22.0	---	---	22.0	22.0	27.0
16	18.0	---	---	---	11.0	12.0	21.0	---	25.0	25.0	29.0	23.0
17	17.0	11.0	6.0	5.0	---	20.0	---	---	29.0	---	---	31.0
18	21.0	11.0	2.0	9.0	9.0	---	---	19.0	26.0	31.0	25.0	---
19	20.0	10.0	---	---	20.0	17.0	17.0	22.0	---	---	25.0	28.0
20	18.0	9.5	9.0	14.0	---	6.0	---	26.0	24.0	---	25.0	29.0
21	18.0	8.0	12.0	13.0	12.0	---	24.0	30.0	---	25.0	---	---
22	23.0	---	13.0	---	9.0	---	26.0	---	30.0	31.0	---	30.0
23	22.0	9.0	13.0	3.0	13.0	---	27.0	---	31.0	25.0	24.0	---
24	12.0	8.0	10.0	13.0	14.0	23.0	---	---	34.0	26.0	---	27.0
25	22.0	9.5	---	11.0	23.0	19.0	23.0	21.0	28.0	28.0	24.0	---
26	18.0	10.0	12.0	---	22.0	24.0	22.0	---	---	---	22.0	27.0
27	17.0	9.0	---	6.0	---	---	---	16.0	---	---	23.0	24.0
28	17.0	---	2.0	16.0	14.0	24.0	26.0	---	27.0	27.0	---	---
29	13.0	8.5	4.0	14.0	---	24.0	19.0	19.0	30.0	27.0	22.0	24.0
30	11.0	8.0	6.0	---	---	---	19.0	20.0	26.0	27.0	22.0	23.0
31	9.0	---	11.0	18.0	---	19.0	---	23.0	---	27.0	18.0	---
MEAN	18.0	11.0	7.5	10.5	11.5	17.0	21.5	24.0	27.5	26.5	27.0	24.5

07300500 SALT FORK RED RIVER AT MANGUM, OK

LOCATION.--Lat 34°51'32", long 99°30'28", in SW 1/4 SE 1/4 sec.34, T.5 N., R.22 W., Greer County, Hydrologic Unit 11120202, near left bank on downstream side of pier of bridge on State Highway 34, 0.5 mi south of Mangum, 13.0 mi downstream from Fish Creek, and at mile 35.5.

DRAINAGE AREA.--1,566 mi^2, of which 209 mi^2 is probably noncontributing.

PERIOD OF RECORD.--April 1905 to June 1906, October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area. WSP 1241: 1938.

GAGE.--Water-stage recorder. Datum of gage is 1,490.87 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Apr. 11, 1905 to June 30, 1906, nonrecording gage at site 0.2 mi upstream at different datum. Oct. 1, 1937, to Nov. 8, 1938, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 1-3, 13-15, 17, Jan. 7-10, Feb. 10-11, and July 19. Records good.

AVERAGE DISCHARGE.--49 years (water years 1938-86), 84.4 ft^3/s (61,150 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 72,000 ft^3/s May 16, 1957 (gage height, 14.55 ft); maximum gage height, 14.7 ft June 16, 1938; no flow at times in each year except 1975 and 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
June 10	0330	*5,130	*9.36				

Minimum daily discharge, 0.35 ft^3/s Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	31	40	43	28	30	12	14	280	78	1.7	1980
2	8.0	30	28	43	29	29	40	13	704	90	2.2	377
3	4.7	29	30	41	30	28	35	11	438	52	2.8	621
4	3.2	30	38	38	29	27	29	8.6	563	43	3.6	748
5	1.6	30	57	36	29	26	22	7.2	1170	35	2.3	667
6	.35	21	65	35	30	24	19	6.0	644	27	64	508
7	.42	26	59	28	37	22	17	4.8	284	23	201	353
8	.42	25	58	24	48	21	14	7.0	195	20	12	223
9	68	24	53	22	55	20	14	8.4	114	18	7.1	162
10	659	24	47	26	50	18	15	6.3	1860	15	6.7	133
11	771	26	39	40	45	17	16	5.4	562	13	4.9	98
12	235	29	34	38	74	18	18	4.1	274	10	17	76
13	285	26	25	35	92	18	18	3.2	137	7.7	3.1	54
14	159	385	30	36	124	20	18	4.1	81	6.4	2.6	553
15	83	220	40	35	163	28	16	7.9	86	5.6	288	363
16	57	141	62	34	148	40	14	8.0	101	4.9	378	563
17	74	96	65	33	121	38	12	29	200	4.0	159	244
18	435	78	90	33	100	39	10	855	114	3.5	61	158
19	98	57	88	32	81	44	11	288	105	3.0	30	87
20	40	47	84	32	65	37	17	171	180	4.9	19	72
21	59	44	68	29	53	33	17	89	155	40	12	54
22	57	43	60	26	51	30	18	50	434	33	8.7	55
23	50	43	57	26	48	24	15	35	864	15	7.4	54
24	47	40	52	26	46	21	12	31	342	8.0	6.4	57
25	44	42	47	25	43	18	9.9	1190	126	5.6	6.4	96
26	43	44	44	24	41	17	8.7	975	79	4.6	5.1	185
27	36	44	42	24	36	16	36	671	59	4.0	95	114
28	34	44	41	24	32	14	32	367	51	3.3	67	89
29	32	43	41	25	---	13	21	211	43	2.6	78	485
30	29	47	42	24	---	12	16	165	37	1.9	31	228
31	28	---	43	25	---	12	---	150	---	1.9	610	---
TOTAL	3468.69	1809	1569	962	1728	754	552.6	5396.0	10282	583.9	2193.0	9457
MEAN	112	60.3	50.6	31.0	61.7	24.3	18.4	174	343	18.8	70.7	315
MAX	771	385	90	43	163	44	40	1190	1860	90	610	1980
MIN	.35	21	25	22	28	12	8.7	3.2	37	1.9	1.7	54
AC-FT	6880	3590	3110	1910	3430	1500	1100	10700	20390	1160	4350	18760

CAL YR 1985	TOTAL	29722.45	MEAN	81.4	MAX	1820	MIN	.00	AC-FT	58950
WTR YR 1986	TOTAL	38755.19	MEAN	106	MAX	1980	MIN	.35	AC-FT	76870

07301300 NORTH FORK RED RIVER NEAR SHAMROCK, TX

LOCATION.--Lat 35°15'51", long 100°14'29", Wheeler County, Hydrologic Unit 11120302, on left bank at downstream side of bridge on U.S. Highway 83, 2.5 mi north of Shamrock, 16 mi upstream from Texas-Oklahoma State line, and 23 mi downstream from McClellan Creek.

DRAINAGE AREA.--1,082 mi^2, of which 379 mi^2 probably is noncontributing.

PERIOD OF RECORD.--1951-63 (occasional low-flow measurements), February 1964 to current year.
Water-quality records.--Chemical analyses: October 1964 to September 1981.

Gage.--Water-stage recorder. Datum of gage is 2,165.55 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges Nov. 29, 30, Jan. 23, and Feb. 7-11. Records fair except those for periods of estimated daily discharges, which are poor. There is some regulation by Lake McClellan (capacity 5,000 acre-feet) 41 mi upstream. Flow is affected at times by discharge from the flood-detention pools of 11 floodwater-retarding structures with a combined detention capacity of 18,290 acre-ft. These structures control runoff from 165 mi^2. Gage-height telemeter at station.

AVERAGE DISCHARGE.--22 years, 31.2 ft^3/s (22,600 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,400 ft^3/s May 29, 1975 (gage height, 7.47 ft), from rating curve extended above 3,800 ft^3/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1915, 16.1 ft in May 1957, from information by State Department of Highways and Public Transportation and by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,320 ft^3/s Oct. 10 at 1115 hours (gage height, 5.56 ft); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	32	14	38	19	7.0	2.1	2.6	393	118	.00	8.0
2	.12	22	14	30	22	10	2.5	1.0	260	107	.00	3.6
3	.06	18	13	27	29	10	2.5	.74	142	44	.00	26
4	.00	17	14	29	29	9.9	2.0	.20	366	23	.00	24
5	.00	16	61	35	26	8.9	2.0	.02	196	6.8	.00	14
6	.00	12	100	34	23	6.1	1.9	.01	55	.98	.00	7.1
7	.00	9.6	30	22	23	4.5	2.2	.01	26	.64	.00	3.0
8	.00	10	22	21	23	4.4	2.4	1.3	18	.20	.00	2.5
9	32	11	26	26	23	4.9	3.2	.21	44	.10	.00	1.8
10	2930	8.4	30	64	25	3.5	4.0	.19	54	.06	.00	1.5
11	614	11	16	98	32	3.9	7.0	.14	22	.12	.00	.54
12	181	15	19	63	63	4.7	11	.08	9.2	.01	.00	.36
13	142	19	26	45	100	7.6	10	.05	2.6	.00	.00	.28
14	108	212	33	36	245	9.6	5.1	1.3	.67	.00	.00	11
15	66	86	83	35	167	19	3.4	1.7	32	.00	.00	3.1
16	65	51	139	35	77	52	4.9	23	43	.00	.00	.96
17	103	38	145	32	39	35	6.5	574	42	.00	.00	.44
18	89	44	139	28	40	22	4.7	221	29	.00	.00	.28
19	64	31	88	30	38	7.2	16	17	39	.00	.00	.14
20	55	22	114	28	34	7.3	5.8	5.1	56	.00	.00	.11
21	60	21	68	19	26	9.1	4.6	3.0	119	.00	.00	.10
22	52	29	50	14	30	9.3	4.0	1.2	54	.00	.00	.10
23	39	33	40	16	32	6.5	2.4	.50	25	.00	.00	40
24	31	32	33	17	26	4.6	.96	7.0	16	.00	.00	64
25	28	47	28	16	25	4.6	1.2	620	8.5	.00	.00	6.1
26	27	61	29	14	23	3.0	1.8	122	2.7	.00	.00	2.1
27	26	41	32	13	13	2.5	11	187	.72	.00	2.8	1.2
28	26	37	31	19	7.2	2.5	6.9	43	.52	.00	.03	1.6
29	24	24	29	27	---	2.5	6.3	59	7.6	.00	.00	144
30	18	17	38	24	---	2.1	4.4	63	3.5	.00	.38	108
31	16	---	39	20	---	1.5	---	77	---	.00	25	---
TOTAL	4796.35	1027.0	1543	955	1259.2	285.7	142.76	2032.35	2067.01	300.91	28.21	475.91
MEAN	155	34.2	49.8	30.8	45.0	9.22	4.76	65.6	68.9	9.71	.91	15.9
MAX	2930	212	145	98	245	52	16	620	393	118	25	144
MIN	.00	8.4	13	13	7.2	1.5	.96	.01	.52	.00	.00	.10
AC-FT	9510	2040	3060	1890	2500	567	283	4030	4100	597	56	944

CAL YR 1985 TOTAL 16012.18 MEAN 43.9 MAX 2930 MIN .00 AC-FT 31760
WTR YR 1986 TOTAL 14913.40 MEAN 40.9 MAX 2930 MIN .00 AC-FT 29580

07301410 SWEETWATER CREEK NEAR KELTON, TX

LOCATION.--Lat 35°28'23", long 100°07'14", Wheeler County, Hydrologic Unit 11120302, near center of stream at downstream side of bridge on Farm Road 592, 5 mi north of Kelton, 8 mi upstream from Texas-Oklahoma State line, and 8.5 mi northeast of Wheeler.

DRAINAGE AREA.--287 mi², of which 20 mi² probably is noncontributing.

PERIOD OF RECORD.--November 1961 to current year.
Water-quality records.--Chemical analyses: October 1969 to September 1986.

GAGE.--Water-stage recorder. Elevation of gage is 2,230 ft above National Geodetic Vertical datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 13-14, Jan 8-9, and Feb. 10-12. Records good except those for estimated daily discharges, which are poor. There are small diversions upstream from station for ranch use. Gage-height telemeter at station via Sutron Data Collection Platform.

AVERAGE DISCHARGE.--24 years (water years 1963-86), 13.0 ft³/s (0.66 in/yr), 9,420 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,890 ft³/s May 20, 1977 (gage height, 15.73 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1882, about 20 ft May 16, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 11	1500	*462	*12.19				

Minimum discharge, 0.32 ft³/s Aug. 19, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	10	9.6	13	14	13	11	8.1	21	17	.77	1.5
2	3.1	10	17	14	14	12	11	8.1	28	13	.73	1.7
3	2.9	9.7	14	13	15	12	11	7.9	51	11	.87	1.6
4	2.7	9.4	14	13	15	12	11	7.7	33	9.4	.74	2.0
5	2.6	9.3	14	12	15	12	11	7.4	80	8.2	.68	3.1
6	2.8	9.5	14	13	14	12	11	6.8	35	7.4	.60	2.3
7	2.7	9.0	15	13	15	12	11	7.4	26	7.2	.61	1.7
8	2.7	9.3	14	12	17	12	10	6.7	21	6.9	.61	1.7
9	3.8	9.3	14	12	17	12	10	11	19	6.3	.69	1.7
10	110	8.9	14	13	14	11	11	8.1	18	5.8	.75	1.6
11	298	8.9	13	14	14	12	11	7.4	16	6.1	.59	1.5
12	203	9.3	14	14	18	12	11	6.8	15	5.8	.57	1.0
13	57	9.5	13	13	17	12	11	6.5	14	9.0	.49	.91
14	37	25	13	14	19	11	10	7.0	13	5.6	.54	1.1
15	27	39	15	14	22	12	10	12	15	4.5	.88	1.8
16	21	21	15	14	23	12	10	25	14	4.0	.76	1.5
17	19	18	15	14	20	12	11	253	15	3.5	.60	1.3
18	19	17	15	13	18	12	11	128	15	3.2	.50	1.1
19	16	15	15	13	16	12	9.9	49	16	2.8	.41	.93
20	15	13	15	14	15	12	10	33	14	2.4	.36	.81
21	14	13	15	14	13	12	9.8	24	14	2.2	.37	.72
22	14	12	15	12	13	12	9.4	19	13	2.1	.40	.64
23	13	13	15	13	14	12	9.3	16	12	1.9	.41	5.9
24	12	13	15	13	14	11	9.0	15	11	1.7	.52	165
25	11	13	14	13	13	11	8.4	17	11	1.5	.48	16
26	11	13	15	13	14	11	9.2	19	9.8	1.3	.41	7.1
27	11	13	14	13	13	11	9.9	23	9.3	1.2	1.2	4.3
28	10	12	13	14	12	11	10	20	9.2	1.1	.64	3.3
29	9.9	13	13	14	---	11	9.1	18	8.5	.94	.51	17
30	9.6	13	14	14	---	11	8.3	17	8.4	.84	.57	97
31	9.6	---	13	14	---	11	---	17	---	.80	.90	---
TOTAL	973.7	398.1	438.6	412	438	363	305.3	811.9	585.2	154.68	19.16	347.81
MEAN	31.4	13.3	14.1	13.3	15.6	11.7	10.2	26.2	19.5	4.99	.62	11.6
MAX	298	39	17	14	23	13	11	253	80	17	1.2	165
MIN	2.6	8.9	9.6	12	12	11	8.3	6.5	8.4	.80	.36	.64
CFSM	.12	.05	.05	.05	.06	.04	.04	.10	.07	.02	.00	.04
IN.	.14	.06	.06	.06	.06	.05	.04	.11	.08	.02	.00	.05
AC-FT	1930	790	870	817	869	720	606	1610	1160	307	38	690

CAL YR 1985 TOTAL 5690.49 MEAN 15.6 MAX 315 MIN .17 CFSM .06 IN. .79 AC-FT 11290
WTR YR 1986 TOTAL 5247.45 MEAN 14.4 MAX 298 MIN .36 CFSM .05 IN. .73 AC-FT 10410

07307800 PEASE RIVER NEAR CHILDRESS, TX

LOCATION.--Lat 34°13'39", long 100°04'24", Cottle County, Hydrologic Unit 11130105, near right bank at downstream side of bridge on Farm Road 104, 0.8 mi upstream from Catfish Creek, 4.4 mi downstream from confluence of North and Middle Forks, 17 mi southeast of Childress, and 71.0 mi upstream from mouth.

DRAINAGE AREA.--2,754 mi^2, of which 559 mi^2 probably is noncontributing.

PERIOD OF RECORD.--December 1959 to September 1962, and October 1967 to current year.
Water-quality records.--Chemical analyses: July 1968 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,492.98 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 21, 1959, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharge Dec. 2, 13, Feb. 10-11, and Aug. 5 to Sept. 15. Records good except those for periods of estimated discharges, which are poor. There are three small diversions for irrigation above station. Flow is affected at times by discharge from the flood-detention pools of six floodwater-retarding structures with a combined detention capacity of 1,360 acre-ft. These structures control runoff from 6.97 mi^2 in the Kent Creek drainage basin.

AVERAGE DISCHARGE.--21 years (water years 1961-62, 1967-86), 59.0 ft^3/s (0.36 in/yr), 42,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,000 ft^3/s June 9, 1960 (gage height, 13.59 ft), from rating curve extended above 4,000 ft^3/s on basis of runoff comparisons with nearby stations; maximum gage height, 14.83 ft Oct. 20, 1983; no flow Aug. 10-22, 1969, May 25, 26, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1909, 22 ft June 1, 1957; flood in May 1935 reached a stage of 18 ft and was the second highest, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 10	1100	5,080	11.39	Sept. 29	0730	*5,600	*11.26
May 17	0530	3,020	10.52				

Minimum daily discharge, 2.0 ft^3/s Aug. 14-25, 27-28, 31, and Sept. 1-2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154	33	36	18	19	26	6.4	6.4	20	112	5.1	2.0
2	83	32	32	17	19	26	15	5.2	23	497	4.5	2.0
3	64	31	34	17	20	25	16	3.3	42	294	3.7	2.4
4	46	30	36	17	20	24	11	3.3	173	298	3.5	192
5	38	30	35	16	24	23	8.0	3.1	306	129	3.1	222
6	30	27	34	16	29	22	6.8	3.1	106	62	2.4	82
7	25	25	33	18	36	22	6.1	3.4	68	47	2.4	52
8	21	24	31	17	44	23	5.7	3.5	67	40	2.4	27
9	373	23	30	17	51	23	8.2	4.0	51	24	2.7	19
10	2870	21	30	18	40	22	9.8	4.7	38	18	3.1	11
11	1270	22	30	18	40	21	9.2	2.9	32	14	2.4	4.0
12	278	23	30	18	44	21	8.2	3.1	31	12	2.4	3.1
13	255	23	28	18	42	20	7.3	3.2	29	12	2.4	3.1
14	309	298	29	18	63	20	4.5	3.0	27	11	2.0	2.7
15	240	173	29	18	84	25	3.9	3.2	27	11	2.0	97
16	185	99	30	19	69	22	4.1	6.0	25	11	2.0	25
17	207	75	33	18	54	20	4.2	530	23	11	2.0	17
18	900	60	32	18	47	18	3.9	32	58	10	2.0	12
19	358	48	30	18	41	15	6.8	14	79	10	2.0	9.3
20	186	40	29	17	37	14	8.4	14	39	9.7	2.0	8.4
21	108	40	27	17	34	14	6.0	14	35	14	2.0	8.3
22	118	40	26	17	33	14	4.7	15	53	19	2.0	8.4
23	100	39	25	17	32	12	4.1	14	73	9.2	2.0	8.5
24	66	39	23	17	30	11	5.0	14	85	7.6	2.0	8.4
25	53	39	21	17	30	11	4.1	15	48	7.8	2.0	9.4
26	49	38	20	17	30	10	3.9	34	32	7.1	2.4	25
27	46	35	20	17	29	10	4.4	44	25	6.6	2.0	20
28	44	34	19	18	26	9.6	4.1	23	21	6.8	2.0	15
29	40	35	18	18	---	8.7	3.2	17	19	6.2	2.4	1400
30	36	37	18	18	---	7.8	4.1	24	17	5.8	2.4	1090
31	35	---	18	18	---	7.4	---	23	---	5.7	2.0	---
TOTAL	8587	1513	866	542	1067	547.5	197.1	888.4	1672	1728.5	77.3	3386.0
MEAN	277	50.4	27.9	17.5	38.1	17.7	6.57	28.7	55.7	55.8	2.49	113
MAX	2870	298	36	19	84	26	16	530	306	497	5.1	1400
MIN	21	21	18	16	19	7.4	3.2	2.9	17	5.7	2.0	2.0
CFSM	.13	.02	.01	.01	.02	.01	.00	.01	.03	.03	.00	.05
IN.	.15	.03	.01	.01	.02	.01	.00	.02	.03	.03	.00	.06
AC-FT	17030	3000	1720	1080	2120	1090	391	1760	3320	3430	153	6720

CAL YR 1985 TOTAL 43285.09 MEAN 119 MAX 9950 MIN .11 CFSM .05 IN. .73 AC-FT 85860
WTR YR 1986 TOTAL 21071.8 MEAN 57.7 MAX 2870 MIN 2.0 CFSM .03 IN. .36 AC-FT 41800

07308500 RED RIVER NEAR BURKBURNETT, TX

LOCATION.--Lat 34°06'36", long 98°31'53", Cotton County, Okla., Hydrologic Unit 11130102, on left bank at downstream side of bridge on U.S. Highways 277 and 281, 2.5 mi northeast of Burkburnett, and at mile 933.

DRAINAGE AREA.--20,570 mi^2, of which 5,936 mi^2 probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1924 to August 1925 (monthly discharge only), December 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 952.57 ft above National Geodetic Vertical Datum of 1929. July 11, 1924, to Aug. 31, 1925, nonrecording gage at site 1,000 ft downstream at same datum. Dec. 16, 1959, to Jan. 11, 1960, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Sept. 14, 21. Records fair except those for periods of estimated daily discharges, which are poor. There are many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--26 years (water years 1961-86), 883 ft^3/s (639,700 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 166,000 ft^3/s Oct. 21, 1983 (gage height, 16.90 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 3, 1957, reached a stage of 13.54 ft, from levels to floodmarks. According to local residents, higher stages occurred in 1891 and June 1941.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft^{3}s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 12	0415	18,000	8.37	June 6	1100	10,500	7.78
Oct. 15	0815	10,300	7.59	Sept. 2	0445	19,300	9.68
Oct. 19	1045	*34,600	*10.95	Sept. 5	2000	25,300	10.25
May 18	0800	10,500	7.63				

Minimum discharge, 67 ft^3/s Aug. 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4280	943	514	325	178	262	154	208	957	487	102	4510
2	2560	881	496	315	182	252	199	186	735	466	94	12800
3	1480	814	483	309	204	247	244	185	639	2960	92	6790
4	742	771	455	313	204	242	236	169	707	4720	101	6340
5	399	727	443	313	222	227	234	151	1350	3890	98	20300
6	280	684	447	313	262	222	235	145	6630	1900	100	17100
7	205	643	441	301	268	213	240	139	3710	1360	129	8220
8	158	614	427	296	262	217	242	124	3690	961	101	4180
9	146	594	426	288	279	227	233	166	2470	689	80	2250
10	146	557	419	275	296	204	231	231	1420	537	156	1490
11	4270	535	417	257	307	222	228	610	936	491	190	1020
12	11100	509	410	258	319	257	220	817	3520	941	128	763
13	4150	504	406	242	344	252	210	598	7260	610	126	583
14	4050	519	401	232	376	232	177	325	4470	419	94	557
15	7460	557	394	222	419	208	160	195	2660	342	74	1800
16	3260	830	393	222	433	208	152	130	2430	276	76	3080
17	2420	2430	395	222	464	238	138	1100	5150	237	76	4330
18	12600	1810	399	217	496	299	129	7650	5620	213	127	2650
19	30900	1450	401	213	521	290	194	5470	3040	194	386	2530
20	15500	1110	387	204	496	257	206	3350	1770	177	332	1560
21	6400	894	396	190	441	242	202	2060	1270	166	252	1190
22	3630	764	400	174	390	242	188	1290	1110	245	199	843
23	2600	677	395	174	363	222	166	830	1080	587	168	659
24	2040	624	371	174	344	203	140	556	750	723	203	583
25	1730	579	342	165	331	190	124	513	1840	774	166	506
26	1520	567	335	162	313	178	118	572	3110	408	119	452
27	1400	538	334	158	296	186	143	5760	3120	267	124	400
28	1280	532	336	162	273	182	238	5460	1640	200	285	366
29	1440	513	336	158	---	178	230	4530	963	158	218	393
30	1190	516	331	165	---	165	217	2450	656	135	379	6680
31	1040	---	327	174	---	162	---	1390	---	114	718	---
TOTAL	130376	23686	12457	7193	9283	6926	5828	47360	74703	25647	5493	114925
MEAN	4206	790	402	232	332	223	194	1528	2490	827	177	3831
MAX	30900	2430	514	325	521	299	244	7650	7260	4720	718	20300
MIN	146	504	327	158	178	162	118	124	639	114	74	366
AC-FT	258600	46980	24710	14270	18410	13740	11560	93940	148200	50870	10900	228000

CAL YR 1985 TOTAL 492411 MEAN 1349 MAX 38100 MIN 38 AC-FT 976700
WTR YR 1986 TOTAL 463877 MEAN 1271 MAX 30900 MIN 74 AC-FT 920100

07308500 RED RIVER NEAR BURKBURNETT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: July 1968 to September 1974. Chemical and biochemical: October 1974 to current year. Pesticide analyses: October 1974 to September 1982.

PERIOD OF DAILY RECORD.--
SECIFIC CONDUCTANCE: July 1968 to September 1981.
WATER TEMPERATURES: July 1968 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 17,400 microsiemens July 30, 1972; minimum daily, 889 microsiemens Sept. 24, 1970.
WATER TEMPERATURES: Maximum daily, 35.5°C June 29, 1980; minimum daily, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
NOV 14...	0845	480	9500	8.00	14.0	70	11.4	120	2.4	K38	K78	1600
JAN 16...	1530	284	10100	7.90	14.5	7.4	11.6	123	2.0	K35	K42	1400
MAR 19...	1500	296	9310	8.20	16.0	3.0	15.3	167	7.4	100	120	1500
MAY 07...	1530	139	10800	8.10	25.5	18	7.0	94	7.1	K50	K28	1700
JUL 23...	1530	819	5800	7.90	32.5	--	8.5	--	5.2	K610	K200	960
AUG 27...	1345	107	6000	8.20	27.5	150	7.5	--	3.3	K20	K60	1100

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
NOV 14...	1400	430	120	1600	18	9.5	189	1300	2500	0.5	11	6000
JAN 16...	1200	340	130	1800	22	9.0	176	1100	2700	0.5	4.2	6560
MAR 19...	1400	380	140	1600	18	9.1	156	1200	2500	0.5	2.1	6020
MAY 07...	1500	430	140	1800	20	11	140	1400	3000	0.4	7.7	6780
JUL 23...	840	250	80	850	12	9.5	118	800	1400	0.5	8.4	3650
AUG 27...	990	290	90	1000	14	11	109	930	1600	0.5	7.6	3950

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)
NOV 14...	6100	--	<0.01	0.71	0.17	0.20	0.53	0.7	0.10	<0.01	<0.01	--
JAN 16...	6200	0.47	0.02	0.49	0.13	0.14	0.57	0.7	0.04	0.02	0.02	0.06
MAR 19...	5900	--	<0.01	<0.10	0.18	0.14	1.1	1.3	0.14	0.01	<0.01	--
MAY 07...	6900	--	<0.01	<0.10	0.06	0.07	1.0	1.1	0.13	0.01	0.01	0.03
JUL 23...	3500	--	<0.01	<0.10	0.11	0.10	2.2	2.3	0.14	0.02	0.01	0.03
AUG 27...	4000	--	<0.01	<0.10	0.09	0.10	0.91	1.0	0.09	<0.01	<0.01	--

DATE	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
NOV 14...	177	229	88	<10	4	200	<10	<1	<1	<1	1	50
JAN 16...	120	92	15	--	--	--	--	-	--	--	--	--
MAR 19...	60	48	76	10	2	200	<10	<1	<1	40	2	<10
MAY 07...	35	13	64	--	--	--	--	--	--	--	--	--
JUL 23...	881	1950	91	30	3	200	<10	<1	<1	<1	2	40
AUG 27...	180	52	91	--	--	--	--	--	--	--	--	--

07308500 RED RIVER NEAR BURKBURNETT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 14...	<1	80	20	<0.1	9	<1	3	<1	4800	48	20
JAN 16...	--	--	--	--	--	--	--	--	--	--	--
MAR 19...	<1	90	40	<0.1	3	24	4	<1	4200	45	20
MAY 07...	--	--	--	--	--	--	--	--	--	--	--
JUL 23...	<5	60	<10	0.1	3	<1	2	<1	2800	35	20
AUG 27...	--	--	--	--	--	--	--	--	--	--	--

07311669 TRUSCOTT BRINE LAKE NEAR TRUSCOTT, TX

LOCATION.--Lat 33°47'52", long 99°50'11", Knox County, Hydrologic Unit 11130204, in gage house on top and near center of dam on Bluff Creek, 3.0 mi northeast of Truscott, and 3.6 mi upstream from mouth.

DRAINAGE AREA.--26.2 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1984 to September 1985.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark).

REMARKS.--The reservoir is formed by a rolled-filled earthen structure with a 2-foot thick blanket of soil cement normal to the upstream slope. The dam is 16,080 ft long with a maximum height of 107 ft above streambed. Uncontrolled spillway is a saddle type sodded spillway on right end of dam 1,000 ft wide. Elevation-spillway discharge points furnished by U.S. Army Corps of Engineers show a discharge of 13,200 and 35,400 ft^3/s at elevations of 1,502.00 and 1,508.00 ft, respectively. Lake is operated and maintained by U.S. Army Corps of Engineers for the purpose of storage and evaporation of water pumped from South and Middle Wichita Rivers as part of Red River Chloride Control project. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	1,512.5	-
Crest of spillway..	1,499.0	107,000

COOPERATION.--The area and capacity tables 1-A and 1-C are provided by the U. S. Army Corps of Engineers, Tulsa District

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,510 acre-ft Sept. 15, 1986 (elevation, 1,434.77 ft); minimum, 1,190 acre-ft Oct. 18, 19, 1984 (elevation, 1,429.47 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,510 acre-ft Sept. 15 (elevation, 1,434.77 ft); minimum, 1,400 acre-ft Oct. 7 (elevation, 1,430.57 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

1,430.0	1,290	1,433.0	1,980
1,431.0	1,490	1,434.0	2,270
1,432.0	1,720	1,435.0	2,580

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1420	2080	2100	2070	2020	2000	1900	1800	1750	1710	1600	1760
2	1420	2080	2090	2060	2020	1990	1900	1800	1750	1730	1590	1760
3	1420	2080	2100	2070	2020	1990	1890	1790	1750	1760	1580	1770
4	1410	2080	2090	2070	2020	1990	1890	1790	1750	1770	1580	2290
5	1410	2090	2090	2060	2030	1990	1890	1780	1760	1770	1580	2450
6	1410	2080	2100	2060	2030	1980	1890	1780	1760	1760	1570	2460
7	1410	2070	2090	2050	2030	1980	1890	1780	1750	1760	1570	2460
8	1400	2070	2090	2050	2030	1980	1880	1770	1750	1750	1630	2460
9	1410	2080	2100	2050	2030	1980	1870	1770	1750	1740	1660	2460
10	1430	2060	2090	2050	2020	1970	1870	1770	1750	1740	1660	2480
11	1420	2050	2080	2050	2020	1970	1870	1760	1740	1720	1650	2470
12	1430	2050	2080	2050	2020	1970	1870	1760	1740	1720	1650	2470
13	1430	2060	2080	2050	2020	1960	1860	1750	1730	1710	1640	2470
14	1610	2120	2080	2050	2020	1960	1850	1750	1730	1700	1630	2500
15	1610	2120	2080	2040	2020	1960	1850	1750	1720	1700	1640	2510
16	1610	2130	2080	2040	2030	1960	1840	1750	1710	1690	1640	2510
17	1730	2130	2080	2040	2030	1970	1840	1740	1710	1680	1640	2510
18	2100	2130	2080	2040	2020	1960	1840	1730	1710	1670	1630	2510
19	2110	2120	2080	2040	2030	1950	1840	1730	1710	1670	1630	2500
20	2110	2120	2080	2050	2020	1950	1830	1730	1720	1670	1620	2490
21	2110	2110	2080	2040	2010	1940	1830	1720	1720	1670	1620	2490
22	2120	2110	2080	2040	2010	1940	1830	1720	1720	1660	1620	2490
23	2110	2110	2080	2030	2010	1940	1830	1710	1710	1660	1610	2480
24	2120	2110	2080	2040	2000	1930	1820	1710	1710	1650	1600	2480
25	2110	2110	2070	2030	2010	1930	1820	1740	1700	1640	1590	2470
26	2110	2120	2070	2020	2010	1930	1820	1740	1700	1640	1600	2460
27	2110	2100	2070	2020	2000	1930	1810	1730	1690	1630	1600	2460
28	2110	2100	2070	2020	1990	1930	1810	1730	1710	1630	1600	2450
29	2100	2100	2070	2020	---	1920	1810	1730	1710	1620	1590	2460
30	2100	2110	2080	2020	---	1920	1800	1730	1700	1610	1590	2490
31	2090	---	2070	2020	---	1920	---	1730	---	1600	1720	---
MAX	2120	2130	2100	2070	2030	2000	1900	1800	1760	1770	1720	2510
MIN	1400	2050	2070	2020	1990	1920	1800	1710	1690	1600	1570	1760
(†)	1433.38	1433.44	1433.30	1433.15	1433.04	1432.77	1432.31	1432.04	1431.89	1431.48	1431.98	1434.70
(‡)	+670	+20	-40	-50	-30	-70	-120	-70	-30	-100	+120	+770

CAL YR 1985 MAX 2130 MIN 1390 (‡) +630
WTR YR 1986 MAX 2510 MIN 1400 (‡) +1070

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

07311669 TRUSCOTT BRINE LAKE NEAR TRUSCOTT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1984 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1984 to current year.
WATER TEMPERATURES: October 1984 to current year.

INSTRUMENTATION.--Beginning October 1, 1984 specific condustance and water temperature are recorded continuously at this station.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 2,400 microsiemens Dec. 25, 26, 28, 1984; minimum, 1,340 microsiemens Oct. 23, 1985.
WATER TEMPERATURES: Maximum, 33.5°C July 27, Aug. 1, 18, 19, 1986; minimum, 0.5°C Jan. 31, Feb. 2, 9, 1985.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 2,330 microsiemens Jan. 13, Feb. 13; minimum, 1,340 microsiemens Oct. 23.
WATER TEMPERATURES: Maximum daily, 33.5°C July 27, Aug. 1, 18, 19; minimum daily, 3.0°C Dec. 14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
FEB 24...	1315	1900	--	12.0	760	680	210	56	120
APR 01...	1420	1980	--	18.5	800	710	220	60	140
MAY 13...	0940	2090	7.70	23.0	810	720	220	63	140
JUN 26...	0945	2200	7.80	28.5	860	780	230	70	150
AUG 05...	1015	2280	--	27.0	860	780	240	64	170

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
FEB 24...	2	10	80	580	220	0.4	5.0	1200
APR 01...	2	9.2	86	680	250	0.4	3.7	1400
MAY 13...	2	10	85	690	240	0.4	3.5	1400
JUN 26...	2	9.9	82	720	260	0.4	4.7	1500
AUG 05...	3	8.3	79	790	280	0.4	6.6	1600

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	1740	1730	1730	1460	1450	1450	1800	1780	1790	1790	1750	1770
2	1740	1730	1740	1460	1450	1460	1800	1790	1800	1770	1750	1760
3	1740	1720	1730	1460	1460	1460	1800	1760	1780	1770	1760	1770
4	1740	1710	1730	1470	1460	1460	1780	1760	1770	1780	1760	1770
5	1740	1710	1720	1500	1460	1480	1790	1770	1780	1790	1740	1760
6	1730	1720	1720	1500	1480	1490	1790	1760	1770	1750	1720	1730
7	1750	1720	1730	1500	1480	1490	1780	1760	1770	1790	1730	1760
8	1750	1730	1740	1510	1490	1500	1790	1770	1780	1820	1780	1800
9	1760	1740	1750	1520	1510	1520	1790	1780	1790	1830	1800	1820
10	1750	1730	1740	1530	1520	1520	1800	1790	1790	1850	1820	1840
11	1740	1730	1740	1540	1520	1530	1810	1800	1800	2300	1830	1850
12	1750	1730	1740	1540	1530	1530	1820	1800	1810	2310	1850	1860
13	1770	1740	1750	1540	1530	1530	1820	1810	1810	2330	1850	1870
14	1760	1720	1730	1540	1530	1530	1830	1780	1810	2120	1870	1880
15	1730	1720	1730	1540	1530	1540	1800	1780	1790	1910	1870	1890
16	1740	1720	1730	1540	1530	1540	1820	1800	1810	1920	1900	1910
17	1730	1720	1720	1540	1530	1540	1820	1800	1810	1930	1910	1910
18	1720	1690	1700	1540	1530	1530	1820	1810	1810	1950	1920	1940
19	1700	1680	1690	1540	1530	1530	1840	1810	1820	1960	1940	1950
20	1720	1690	1700	1540	1530	1540	1830	1820	1830	1980	1950	1970
21	1720	1700	1710	1540	1530	1540	1830	1810	1830	2000	1970	1980
22	1710	1360	1540	1560	1540	1540	1830	1810	1820	2010	1990	2000
23	1410	1340	1380	1560	1550	1550	1830	1780	1800	2020	2000	2010
24	1420	1390	1400	1560	1550	1550	1800	1790	1800	2040	2020	2030
25	1420	1410	1420	1750	1550	1640	1820	1800	1810	2050	2020	2040
26	1430	1410	1420	1760	1740	1750	1820	1780	1790	2080	2050	2070
27	1430	1420	1430	1770	1750	1760	1800	1780	1790	2110	2060	2080
28	1440	1420	1430	1780	1760	1770	1810	1790	1800	2100	2090	2090
29	1440	1430	1430	1780	1770	1780	1810	1790	1800	2120	2100	2110
30	1450	1430	1440	1790	1780	1780	1810	1760	1780	2130	2110	2120
31	1450	1440	1450	---	---	---	1780	1770	1780	2150	2120	2140
MONTH	1770	1340	1630	1790	1450	1560	1840	1760	1800	2330	1720	1920

07311669 TRUSCOTT BRINE LAKE NEAR TRUSCOTT, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	2170	2140	2150	1920	1910	1910	2150	1900	2080	2010	1980	1990
2	2170	2140	2150	1920	1900	1910	1910	1890	1900	2010	1990	2000
3	2170	2160	2170	1920	1910	1910	1930	1900	1910	2020	1990	2000
4	2180	2160	2170	1930	1910	1920	1940	1900	1910	2040	2000	2010
5	2200	2180	2190	1940	1910	1920	1940	1890	1920	2050	2010	2030
6	2210	2200	2200	1940	1920	1920	1960	1920	1940	2090	2020	2040
7	2220	2200	2210	1930	1920	1920	1980	1930	1950	2040	2020	2030
8	2250	2220	2230	1930	1890	1920	1950	1920	1930	2110	2040	2060
9	2300	2240	2250	1880	1470	1740	1930	1920	1920	2060	2040	2050
10	2280	2260	2270	1600	1540	1580	1930	1920	1920	2050	2030	2050
11	2300	2270	2290	1610	1580	1600	1930	1920	1920	2080	2040	2060
12	2310	2290	2300	1610	1580	1590	1940	1920	1930	2110	2060	2080
13	2330	2010	2250	1630	1600	1620	1970	1920	1940	2070	2040	2050
14	2120	2010	2100	1640	1620	1630	1940	1920	1930	2050	2040	2050
15	2130	2080	2110	1690	1660	1670	1940	1920	1930	2080	2030	2050
16	2050	1920	1960	1720	1680	1700	1950	1930	1940	2070	2050	2060
17	1930	1910	1920	1740	1700	1720	1980	1930	1950	2050	2030	2040
18	1930	1890	1910	1760	1740	1750	1970	1950	1960	2050	2030	2040
19	1920	1900	1920	1790	1760	1770	1960	1940	1950	2070	2030	2050
20	1940	1910	1920	1810	1780	1800	1960	1940	1950	2080	2040	2060
21	1930	1910	1920	1850	1810	1820	1960	1940	1950	2120	2050	2070
22	1940	1920	1930	1880	1840	1850	1980	1950	1960	2100	2060	2080
23	1940	1910	1920	1900	1860	1880	1980	1950	1960	2080	2010	2060
24	1920	1890	1910	1930	1890	1900	2040	1970	1990	2060	2040	2050
25	1920	1900	1900	1940	1920	1930	2000	1970	1980	2060	2000	2050
26	1920	1900	1910	1990	1930	1960	1990	1950	1970	2040	2030	2040
27	1920	1900	1910	2020	1960	1990	1970	1940	1960	2050	2030	2040
28	1920	1910	1910	2050	1990	2020	1990	1960	1970	2060	2030	2050
29	---	---	---	2080	2040	2060	2020	1960	1990	2060	2030	2050
30	---	---	---	2110	2070	2080	2010	1990	2000	2050	2040	2040
31	---	---	---	2130	2100	2110	---	---	---	2060	2010	2030
MONTH	2330	1890	2070	2130	1470	1840	2150	1890	1950	2120	1980	2040

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	2020	1990	2010	2100	2060	2080	2170	2110	2130	2170	2140	2150
2	2020	1980	2000	2080	1990	2050	2140	2110	2130	2160	2140	2150
3	2050	1980	2010	2110	2000	2030	2140	2120	2130	2150	2080	2130
4	2030	1960	2000	2060	2020	2040	2170	2130	2150	2140	2060	2080
5	2070	2010	2040	2090	2000	2050	2190	2130	2150	2070	1420	1850
6	2080	2040	2060	2100	2030	2060	2190	2160	2170	2030	1590	1870
7	2080	2040	2060	2090	2060	2070	2190	2160	2170	2050	1910	2010
8	2060	2040	2050	2130	2050	2080	2170	2120	2150	2010	1600	1810
9	2080	2050	2060	2130	2060	2080	2180	2130	2150	1800	1620	1670
10	2110	2050	2070	2100	2060	2080	2140	2110	2120	1880	1760	1800
11	2060	2040	2050	2100	2070	2080	2140	2100	2120	1880	1830	1860
12	2100	2050	2070	2130	2070	2090	2150	2120	2130	1870	1840	1850
13	2110	2080	2090	2100	2080	2090	2150	2130	2140	1870	1840	1850
14	2140	2080	2100	2130	2070	2090	2140	2120	2130	1860	1840	1850
15	2090	2060	2080	2140	2080	2100	2140	2120	2130	1880	1850	1860
16	2110	2070	2090	2120	2080	2100	2170	2140	2150	1910	1850	1870
17	2080	2060	2070	2120	2080	2100	2170	2140	2160	1910	1870	1880
18	2090	2050	2070	2150	2090	2110	2180	2140	2160	1910	1870	1890
19	2110	2050	2070	2150	2090	2120	2190	2160	2170	1900	1880	1890
20	2110	2060	2070	2110	2090	2100	2190	2160	2180	1900	1880	1890
21	2110	2060	2080	2110	2080	2100	2180	2160	2170	1910	1880	1900
22	2110	2070	2080	2150	2080	2110	2190	2160	2170	1940	1900	1910
23	2110	2070	2090	2160	2100	2120	2190	2170	2180	1930	1900	1920
24	2110	2080	2100	2160	2100	2130	2220	2170	2190	1930	1910	1920
25	2120	2080	2100	2150	2090	2120	2200	2190	2190	1970	1900	1920
26	2130	2090	2100	2180	2110	2130	2200	2180	2190	1940	1910	1920
27	2150	2080	2110	2190	2110	2140	2190	2180	2180	1950	1920	1930
28	2130	2040	2100	2180	2100	2140	2200	2180	2190	1940	1910	1930
29	2190	2070	2100	2160	2110	2130	2200	2190	2200	1940	1930	1940
30	2150	2080	2110	2150	2090	2130	2200	2190	2200	1930	1920	1920
31	---	---	---	2150	2110	2130	2200	2120	2160	---	---	---
MONTH	2190	1960	2070	2190	1990	2100	2220	2100	2160	2170	1420	1910

07311669 TRUSCOTT BRINE LAKE NEAR TRUSCOTT, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	19.5	16.5	17.5	18.0	16.5	17.0	8.5	7.0	8.0	7.0	6.0	6.5
2	18.0	17.0	17.5	16.5	16.0	16.5	7.5	6.5	7.0	7.0	6.0	6.5
3	20.5	16.5	18.5	16.0	15.5	16.0	6.5	6.0	6.0	7.0	6.0	6.5
4	19.0	17.0	18.0	17.0	15.0	16.0	7.0	6.0	6.5	7.0	6.0	6.5
5	21.0	16.0	18.0	16.0	15.5	16.0	8.0	6.0	6.5	6.5	5.5	6.0
6	18.5	17.5	18.0	15.5	15.0	15.0	7.5	6.5	7.0	6.5	5.5	6.0
7	19.5	16.5	17.5	16.0	14.5	15.0	7.5	7.0	7.0	6.0	4.5	5.5
8	19.5	18.0	19.0	15.0	14.5	15.0	7.5	6.5	7.0	5.0	3.5	4.0
9	20.0	19.0	19.5	16.5	15.0	15.5	8.0	7.0	7.5	5.0	3.5	4.5
10	19.0	18.0	18.5	16.0	14.0	15.0	7.5	6.5	7.0	5.5	4.0	4.5
11	18.0	17.5	17.5	14.0	13.5	13.5	6.5	5.5	6.0	6.5	4.0	5.0
12	21.5	17.5	19.0	13.5	13.0	13.0	5.5	5.0	5.5	6.5	5.0	5.5
13	24.0	19.5	21.0	13.0	13.0	13.0	5.0	4.0	4.5	6.5	4.0	5.5
14	20.5	18.5	19.0	13.5	12.5	13.0	4.5	3.0	4.0	6.0	5.0	5.5
15	19.0	18.0	18.5	13.0	12.0	12.5	5.0	3.5	4.5	7.0	5.0	6.0
16	20.0	18.0	19.0	12.5	12.0	12.5	5.0	4.0	4.5	8.0	6.5	7.0
17	19.5	18.5	18.5	13.0	12.0	12.5	5.5	4.0	5.0	9.0	6.5	7.5
18	20.5	18.0	18.5	14.0	13.0	13.5	4.5	4.0	4.5	9.0	7.0	7.5
19	19.0	18.5	18.5	13.5	12.5	13.0	5.0	3.5	4.0	9.0	6.5	7.0
20	19.0	18.5	19.0	12.5	11.5	12.0	5.0	4.0	4.5	9.5	7.5	8.5
21	19.5	18.5	19.0	11.5	11.0	11.0	6.0	4.5	5.0	9.5	7.5	8.5
22	20.0	19.0	19.5	11.0	10.5	10.5	6.5	5.0	5.5	8.5	7.0	8.0
23	20.5	19.5	20.0	10.5	10.5	10.5	6.0	5.0	5.5	8.5	6.5	7.5
24	19.5	19.0	19.5	10.5	10.0	10.0	6.0	5.0	5.5	9.5	7.5	8.0
25	20.5	19.5	19.5	11.5	10.0	10.5	6.0	5.0	5.5	8.5	7.0	7.5
26	20.5	20.0	20.0	12.0	10.5	11.5	6.0	4.5	5.0	8.5	6.5	7.5
27	20.0	19.5	20.0	10.5	10.0	10.5	6.0	5.0	5.0	8.0	6.0	7.0
28	20.0	19.5	19.5	10.0	9.5	10.0	6.0	4.5	5.5	8.5	6.5	7.5
29	19.5	19.0	19.0	9.5	9.0	9.0	6.5	5.0	6.0	8.5	7.0	7.5
30	19.0	18.0	18.5	9.5	8.5	9.0	7.0	5.5	6.0	9.5	6.5	8.0
31	18.5	17.5	18.0	---	---	---	6.5	5.5	6.0	10.5	8.0	9.5
MONTH	24.0	16.0	19.0	18.0	8.5	13.0	8.5	3.0	5.5	10.5	3.5	6.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	12.0	10.0	11.0	12.0	10.0	11.0	18.0	17.0	17.5	21.5	20.0	20.5
2	12.5	10.5	11.5	12.5	11.0	11.5	18.0	17.0	17.5	22.5	20.0	21.0
3	13.0	11.5	12.0	12.5	11.0	11.5	19.5	17.0	18.0	22.5	19.5	21.0
4	12.0	11.0	11.5	12.5	11.0	12.0	22.0	17.0	19.0	23.0	20.0	21.0
5	11.5	10.5	11.0	13.0	11.5	12.0	24.5	17.5	20.0	26.0	20.5	23.0
6	11.0	10.0	10.5	14.0	11.0	12.5	24.0	20.0	21.5	28.5	22.0	24.0
7	10.0	9.0	9.5	13.0	12.0	12.5	25.0	20.5	22.0	24.5	22.0	23.0
8	9.0	8.0	8.5	14.0	11.5	12.5	21.5	18.5	20.0	26.0	22.0	23.0
9	8.0	7.0	7.5	14.0	12.5	13.5	18.5	17.5	18.0	23.0	21.5	22.0
10	6.5	5.5	6.5	14.0	12.5	13.0	17.5	17.0	17.5	23.5	21.0	22.0
11	7.0	5.0	6.0	13.5	13.0	13.0	19.5	16.5	17.5	26.5	21.5	23.5
12	5.5	5.0	5.5	13.5	12.5	13.0	19.0	17.0	18.0	26.5	23.0	24.5
13	6.0	4.0	5.0	13.5	13.0	13.0	22.0	18.0	19.5	24.5	22.0	23.0
14	6.5	5.5	6.0	14.0	12.5	13.5	19.5	17.0	18.0	25.0	23.0	23.5
15	7.0	5.5	6.0	14.0	13.5	13.5	20.0	17.0	18.0	28.5	23.0	24.5
16	8.5	7.0	7.5	14.5	13.5	14.0	19.0	17.0	18.0	25.5	24.5	25.0
17	8.5	7.5	8.0	14.5	13.5	14.0	20.5	17.0	18.5	23.0	21.0	22.5
18	10.0	8.5	9.0	14.5	14.0	14.0	20.0	18.0	19.0	22.0	20.5	21.0
19	11.0	9.5	10.0	14.0	13.5	13.5	18.5	17.5	18.0	26.0	20.0	22.0
20	11.0	9.5	10.5	13.5	13.0	13.0	18.5	17.0	17.5	24.5	21.0	22.5
21	10.0	8.5	9.5	13.5	12.5	13.0	22.0	17.5	19.0	26.5	21.0	23.0
22	12.0	8.5	10.0	14.5	13.0	14.0	20.5	18.0	19.0	24.0	21.0	22.5
23	11.0	10.0	10.5	14.5	13.5	14.0	20.5	17.5	18.5	23.5	21.5	22.0
24	13.5	9.5	10.5	15.0	14.0	14.5	25.5	18.5	20.5	22.5	21.5	22.0
25	15.5	10.5	12.0	15.0	14.0	14.5	24.0	19.5	21.0	23.5	21.5	22.0
26	12.5	11.0	11.5	16.0	14.5	15.0	21.5	20.0	20.5	23.5	21.5	22.5
27	12.0	10.0	10.5	16.5	15.0	15.5	20.5	19.5	20.0	22.5	21.5	22.0
28	11.5	10.5	11.0	17.5	16.0	16.5	23.0	19.0	20.5	23.5	21.0	22.5
29	---	---	---	17.5	17.0	17.0	23.0	20.0	21.0	24.0	22.0	22.5
30	---	---	---	17.5	16.5	17.0	22.0	20.5	21.0	23.0	21.5	22.0
31	---	---	---	18.0	17.0	17.5	---	---	---	23.0	21.5	22.5
MONTH	15.5	4.0	9.0	18.0	10.0	13.5	25.5	16.5	19.0	28.5	19.5	22.5

07311669 TRUSCOTT BRINE LAKE NEAR TRUSCOTT, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1966

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	24.0	22.0	22.5	28.5	25.5	27.0	33.5	27.0	29.0	23.5	23.0	23.0
2	27.5	22.5	24.0	27.0	25.5	26.5	28.5	26.0	27.0	26.0	23.0	24.0
3	28.5	24.0	26.0	28.0	25.0	26.0	29.0	26.0	27.5	24.5	24.0	24.5
4	26.5	24.0	25.0	28.0	23.0	25.5	30.5	27.0	28.0	24.0	23.0	23.5
5	28.5	23.5	25.5	28.5	22.5	24.5	31.0	27.0	28.5	23.5	22.5	23.0
6	31.0	25.5	27.5	27.0	22.5	24.0	31.5	28.0	29.0	24.0	22.5	23.0
7	28.0	25.0	26.5	27.5	23.0	25.0	30.5	28.5	29.0	23.5	22.0	22.5
8	28.0	25.5	26.5	29.5	23.0	25.5	29.5	27.5	28.5	23.5	21.5	22.5
9	29.5	26.0	27.5	29.0	23.0	25.5	31.0	27.5	29.0	23.5	22.5	23.0
10	29.5	27.0	28.0	30.0	23.0	26.5	29.0	28.0	28.5	24.0	23.0	23.5
11	27.5	26.0	26.5	28.0	24.0	26.5	29.5	27.5	28.5	24.0	23.0	23.5
12	30.5	25.5	27.5	30.5	24.5	27.0	31.0	28.5	29.5	26.0	23.0	24.0
13	30.0	26.5	28.0	28.0	24.5	26.5	29.5	28.0	28.5	26.5	23.5	24.5
14	31.0	26.5	28.5	29.5	22.0	26.5	29.0	27.0	28.0	25.5	23.5	24.5
15	29.5	26.5	27.5	30.0	25.0	27.5	30.0	27.5	28.5	27.0	24.5	25.5
16	30.0	26.5	27.5	29.0	23.0	26.5	32.5	28.5	30.0	29.0	25.0	26.5
17	27.0	26.0	26.5	29.5	22.5	25.0	32.5	29.5	30.5	29.0	26.0	27.0
18	27.5	25.5	26.5	32.0	22.5	26.5	33.5	29.5	31.0	29.0	26.5	27.0
19	28.5	25.5	27.0	31.5	23.5	28.0	33.5	30.5	32.0	27.0	26.0	26.5
20	29.5	26.0	27.5	29.0	27.0	27.5	32.0	29.5	31.0	26.5	25.0	26.0
21	29.5	26.5	27.5	28.5	26.5	27.5	30.5	29.0	29.5	26.5	25.0	25.5
22	31.0	27.0	28.5	29.0	24.0	26.5	31.0	28.5	29.5	27.5	25.0	25.5
23	31.0	27.0	29.0	31.5	23.0	27.5	30.5	29.0	29.5	27.0	25.0	26.0
24	31.5	28.0	29.5	32.5	25.0	28.0	31.5	28.5	29.5	26.5	24.5	25.5
25	30.5	28.0	29.0	30.0	23.5	27.0	29.5	27.0	28.0	27.0	24.5	25.5
26	31.5	28.0	29.0	32.0	23.5	26.5	28.5	26.5	27.0	26.0	24.0	25.0
27	32.0	28.0	29.0	33.5	24.5	28.5	28.0	26.5	27.0	25.0	22.5	24.0
28	30.5	27.0	28.0	31.0	25.0	27.5	26.5	26.0	26.5	24.0	21.5	22.5
29	32.0	27.0	28.5	33.0	24.5	28.0	26.0	25.0	25.5	26.0	22.0	24.5
30	30.5	26.0	28.0	32.5	26.5	29.0	25.5	24.0	24.5	24.5	23.5	24.0
31	---	---	---	31.5	26.0	29.0	24.5	23.5	24.0	---	---	---
MONTH	32.0	22.0	27.5	33.5	22.0	26.5	33.5	23.5	28.5	29.0	21.5	24.5

07311700 NORTH WICHITA RIVER NEAR TRUSCOTT, TX

LOCATION.--Lat 33°49'14", long 99°47'10", Foard-Knox County line, Hydrologic Unit 11130204, near right bank at downstream side of bridge on State Highway 6, 4.5 mi north of Truscott, about 47.6 mi upstream from confluence with South Wichita River, and 188.4 mi upstream from mouth.

DRAINAGE AREA.--937 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1952-57 (occasional low-flow measurements), December 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,351.78 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 2, 1960, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 18-20. Records good except those for period of estimated daily discharge, which are fair. There is one small diversion for irrigation above station. Gage-height telemeter at station via Sutron data collection platform.

AVERAGE DISCHARGE.--26 years (water years 1961-86), 59.9 ft³/s (0.87 in/yr), 43,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,900 ft³/s Sept. 19, 1965 (gage height, 21.96 ft); minimum, 0.01 ft³/s July 25, 1964, and Aug. 22, 23, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900 occurred in September 1919; the next highest flood occurred in May 1954, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 14	1600	1,630	12.68	July 5	0100	2,700	14.94
Oct. 18	1300	*5,870	17.63	Aug. 31	1530	1,140	11.01
May 18	0200	3,090	15.48	Sept. 4	1800	2,210	14.04

Minimum discharge, 3.8 ft³/s June 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	69	38	26	27	20	20	18	34	90	15	286
2	41	65	34	25	27	21	23	20	30	652	14	86
3	30	63	33	24	28	20	26	18	25	902	14	50
4	23	61	30	25	27	20	25	15	28	1300	15	1490
5	20	59	30	24	32	20	22	14	73	1030	15	1070
6	19	58	30	24	36	20	21	13	94	148	13	183
7	18	57	29	24	37	20	20	11	43	86	12	82
8	18	56	28	24	36	20	20	11	18	67	90	51
9	17	56	28	25	34	20	19	12	30	57	21	43
10	49	50	28	27	31	21	22	207	19	50	21	40
11	52	47	29	26	29	21	23	305	13	45	20	38
12	53	45	30	26	34	20	25	93	11	39	17	29
13	39	45	30	25	30	21	23	47	7.3	37	15	27
14	1120	124	27	25	30	21	18	30	5.4	35	12	162
15	955	51	33	25	29	26	17	20	7.3	33	16	46
16	232	47	29	25	28	28	17	16	11	30	19	36
17	257	39	29	25	27	28	16	552	7.3	29	19	30
18	4790	37	29	25	27	24	17	1180	8.1	28	17	27
19	2660	34	28	26	26	21	21	130	11	27	14	25
20	327	30	27	25	24	21	27	83	20	27	12	25
21	159	30	27	24	24	21	25	55	28	32	14	25
22	137	30	27	23	25	21	21	38	39	62	19	25
23	111	31	27	26	25	21	17	31	44	45	13	25
24	96	31	26	26	23	20	21	27	22	32	16	24
25	89	32	25	26	22	19	18	260	23	26	17	24
26	82	33	25	25	21	19	17	134	28	22	36	22
27	81	31	25	26	20	21	25	53	10	22	117	23
28	79	31	25	28	20	21	20	44	48	20	73	23
29	75	32	26	26	---	20	20	35	19	18	42	36
30	75	33	26	23	---	20	16	31	20	16	29	316
31	73	---	26	24	---	20	---	29	---	15	468	---
TOTAL	11830	1407	884	778	779	656	622	3532	776.4	5022	1235	4369
MEAN	382	46.9	28.5	25.1	27.8	21.2	20.7	114	25.9	162	39.8	146
MAX	4790	124	38	28	37	28	27	1180	94	1300	468	1490
MIN	17	30	25	23	20	19	16	11	5.4	15	12	22
CFSM	.41	.05	.03	.03	.03	.02	.02	.12	.03	.17	.04	.16
IN.	.47	.06	.04	.03	.03	.03	.02	.14	.03	.20	.05	.17
AC-FT	23460	2790	1750	1540	1550	1300	1230	7010	1540	9960	2450	8670

CAL YR 1985 TOTAL 25658.4 MEAN 70.3 MAX 4790 MIN 6.0 CFSM .08 IN. 1.02 AC-FT 50890
WTR YR 1986 TOTAL 31890.4 MEAN 87.4 MAX 4790 MIN 5.4 CFSM .09 IN. 1.27 AC-FT 63250

07311700 NORTH WICHITA RIVER NEAR TRUSCOTT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: February 1954 to March 1959, July 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1968 to current year.
WATER TEMPERATURES: July 1968 to current year.

INSTRUMENTATION.--Since August 1968, specific conductance is recorded continuously at this station. Since June 1982, water temperature is recorded continuously at this station.

REMARKS.--Where maximum and minimum specific conductance values are not shown, mean values are estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 35,800 microsiemens Oct. 9, 1982; minimum daily, 400 microsiemens June 7, 8, 1985.
WATER TEMPERATURES: Maximum daily, 39.0°C Aug. 21, 23, 1969, Aug. 22, 1973; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 21,300 microsiemens May 8; minimum daily, 500 microsiemens Oct. 19.
WATER TEMPERATURES: Minimum daily, 0.0°C on several days during December, January, and February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT										
07...	1545	18	11200	--	22.0	1500	1400	400	110	2000
19...	1530	2010	802	--	19.0	240	160	80	9.8	62
NOV										
20...	1145	30	15100	--	14.0	--	--	--	--	--
JAN										
07...	1220	24	16300	--	4.0	2400	2200	720	140	3300
FEB										
24...	1115	24	17300	--	13.0	--	--	--	--	--
APR										
01...	1400	20	18800	--	17.0	2800	2700	800	190	3600
MAY										
13...	1130	46	5010	7.60	24.0	850	780	250	56	760
JUN										
26...	1115	28	14200	--	28.5	--	--	--	--	--
JUL										
02...	1300	1230	1560	7.40	24.5	280	220	88	14	190
04...	1655	1750	790	--	27.0	--	--	--	--	--
AUG										
05...	1200	16	17900	--	29.0	--	--	--	--	--
SEP										
12...	1025	29	10900	--	23.5	--	--	--	--	--

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)
OCT									
07...	24	20	79	1700	3000	0.3	2.1	7300	13
19...	2	5.7	79	170	85	0.2	6.6	470	3780
NOV									
20...	--	--	--	--	--	--	--	--	52
JAN									
07...	31	13	161	2600	5000	0.5	6.8	12000	13
FEB									
24...	--	--	--	--	--	--	--	--	8
APR									
01...	31	16	94	2700	5700	0.5	1.8	13000	17
MAY									
13...	12	29	70	840	1200	0.4	6.7	3200	134
JUN									
26...	--	--	--	--	--	--	--	--	127
JUL									
02...	5	5.9	61	250	270	0.4	6.9	860	5460
04...	--	--	--	--	--	--	--	--	3770
AUG									
05...	--	--	--	--	--	--	--	--	42
SEP									
12...	--	--	--	--	--	--	--	--	49

07311700 NORTH WICHITA RIVER NEAR TRUSCOTT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM
OCT									
07...	0.63	--	--	--	--	--	88	--	--
19...	20500	--	--	--	--	--	39	--	--
NOV									
20...	4.2	--	--	--	--	--	80	--	--
JAN									
07...	0.84	--	--	--	--	--	82	--	--
FEB									
24...	0.52	--	--	--	--	--	82	--	--
APR									
01...	0.92	--	--	--	--	--	95	--	--
MAY									
13...	17	--	--	--	--	--	100	--	--
JUN									
26...	9.6	--	--	--	--	--	29	--	--
JUL									
02...	18100	--	--	--	--	--	99	--	--
04...	17800	68	84	91	94	97	98	99	100
AUG									
05...	1.8	--	--	--	--	--	85	--	--
SEP									
12...	3.8	--	--	--	--	--	97	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1985	11830	2290	1480	47300	580	18500	320	10400	380
NOV.	1985	1407	13300	8870	33700	3700	14100	1800	6840	*
DEC.	1985	884	15400	10300	24700	4400	10500	2100	4910	*
JAN.	1986	778	16500	11100	23400	4800	10100	2200	4600	*
FEB.	1986	779	16500	11100	23300	4800	10000	2200	4590	*
MAR.	1986	656	18400	12500	22100	5400	9650	2400	4270	*
APR.	1986	622	19100	13000	21800	5700	9570	2500	4180	*
MAY	1986	3532	6040	3960	37800	1600	15300	840	7970	970
JUNE	1986	776.4	13900	9290	19500	3900	8240	1900	3920	*
JULY	1986	5022	3470	2270	30800	920	12400	480	6550	560
AUG.	1986	1235	11000	7350	24500	3100	10300	1500	4980	*
SEPT	1986	4369	4400	2860	33700	1100	13400	620	7260	720
TOTAL		31890.4	**	**	343000	**	142000	**	70400	**
WTD.AVG.		87	6000	3980	**	1700	**	820	**	950

07311700 NORTH WICHITA RIVER NEAR TRUSCOTT, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	5000	3500	4080	12500	12100	12300	15400	14800	15200			16200
2	5700	5100	5400	12900	12200	12500	15700	15100	15400			16400
3	6700	5300	5870	13100	10800	12400	15700	14300	15200			16500
4	7600	6700	7190	13400	10800	12700	15500	13700	15000			16000
5	8600	7600	8080	13600	10900	13200	15600	14600	[illegible]			16100
6	9700	8700	9130	13800	13100	13500	15700	14600	15000			16200
7	10800	9700	10200	13900	13300	13700	15900	15200	15600			16300
8	11900	10900	11400	14000	13400	13800	16000	15400	15800			16500
9	12700	11900	12300	14100	13400	13800	16200	13600	15800			16800
10	12300	6300	9590	14100	13600	13900	16300	14200	15900			17000
11	12900	10300	11600	14100	13800	14000	16300	12700	15400			17100
12	13500	6500	10900	14400	13900	14200	16300	10800	14100			16100
13	14300	11100	13000	14400	13900	14200	16200	10800	15300			16000
14	12900	1100	3980	---	---	11100	16500	14200	15500			16200
15	4200	1100	1830	---	---	11300	16300	12400	14800			16500
16	2700	1300	2080	---	---	11900	16500	10200	14700			16300
17	3500	899	2560	---	---	12300	16500	8800	14200			16400
18	1200	599	912	---	---	12700	---	---	14500			16600
19	1300	500	733	---	---	13200	---	---	14900			16700
20	3400	1400	2390	---	---	13700	---	---	15200			16800
21	5200	3500	4400	---	---	14400	---	---	15400			16900
22	6300	5200	5810	---	---	14800	---	---	15300			16200
23	7200	6400	6870	---	---	14600	---	---	15600			16300
24	8200	6800	7480	---	---	14500	---	---	15900			16400
25	9100	8300	8640	---	---	14900	---	---	16300			16600
26	10700	9100	9530	---	---	15000	---	---	16500			16800
27	10900	10000	10400	15200	14900	15000	---	---	16600			16700
28	11000	10500	10800	15300	15100	15200	---	---	16800			16900
29	11400	10700	11000	15400	15000	15200	---	---	16200			17000
30	11900	11300	11500	15400	14800	15200	---	---	15900			16700
31	12300	11600	11900	---	---	---	---	---	16000			16800
MONTH	14300	500	7470	15400	10800	13600	16500	8800	15500			16500

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	16700	16600	16700	18200	18000	18100	19200	18700	19000	20100	19500	19800
2	16700	16600	16700	18400	18100	18300	19100	18800	18900	20000	19200	19700
3	16700	16500	16600	18400	18200	18300	19000	18800	18900	20100	19300	19700
4	16800	15900	16600	18400	18200	18300	19300	18900	19000	20200	18900	19700
5	16600	15800	16200	18400	18300	18400	19300	18900	19000	20900	19500	20200
6	15900	15000	15700	18400	18200	18400	19300	18900	19100	21200	19900	20400
7	15900	14500	15600	18500	18300	18400	19400	19000	19200	21200	20100	20600
8	---	---	15700	18500	18300	18400	19300	19100	19200	21300	20200	20600
9	---	---	15700	18700	18500	18500	19200	18900	19000	20700	19400	20300
10	---	---	15800	18700	18500	18600	19100	18800	18900	19900	4600	15300
11	---	---	16300	18600	18300	18500	18900	18800	18900	11000	2300	4380
12	---	---	15900	18500	18400	18400	19100	18700	18800	4100	2700	3360
13	---	---	15700	18500	18300	18400	19100	18700	18900	4900	4200	4500
14	---	---	16300	18500	18300	18400	19500	18900	19100	---	---	5850
15	---	---	16400	18500	18100	18300	19400	19000	19200	---	---	8980
16	---	---	16300	18300	18000	18200	19600	19000	19300	---	---	10700
17	---	---	16400	18100	17600	18000	19800	19200	19500	---	---	4340
18	16500	15400	16400	18300	17600	17900	20200	19500	19800	---	---	2810
19	16700	16400	16500	18300	17800	18100	19800	19100	19400	---	---	3990
20	16800	16600	16700	18200	17500	17900	19400	18700	19100	---	---	6000
21	17000	15800	16800	18100	17600	17900	19700	19000	19200	---	---	7230
22	17100	16900	17000	18200	17700	17900	19500	18800	19100	---	---	8970
23	17300	16400	17100	18200	17900	18100	19600	18700	19100	---	---	10400
24	17600	17000	17200	18500	18000	18300	19900	19100	19400	---	---	12300
25	17900	17300	17700	18700	18300	18500	19900	18800	19300	---	---	6960
26	18100	17600	17900	18800	18500	18700	19100	18600	18900	---	---	7290
27	18100	17800	18000	18900	18700	18800	18700	16400	18300	---	---	9750
28	18200	17900	18100	19100	18700	18900	19000	16200	18400	---	---	10900
29	---	---	---	19100	18900	19000	19900	17900	19000	---	---	12100
30	---	---	---	19100	18800	19000	19900	19500	19600	---	---	13000
31	---	---	---	19200	18900	19000	---	---	---	---	---	13700
MONTH	18200	14500	16600	19200	17500	18400	20200	16200	19100	21300	2300	11700

07311700 NORTH WICHITA RIVER NEAR TRUSCOTT, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1			12900	---	---	14300	17300	17000	17100	3200	2100	2770
2			13800	2700	1500	2040	17100	16800	16900	6500	3300	4510
3			14600	3300	799	1530	16900	16600	16700	7400	6700	7180
4			14200	2300	599	1370	16900	16600	16700	7500	1300	2520
5			11400	2100	599	1220	17700	16700	17100	2500	1800	2080
6			9940	4000	2100	3050	18000	17600	17800	4200	2200	3080
7			10600	5800	4200	4940	18200	17800	18000	7000	3700	5610
8			13200	7300	5900	6570	18100	2800	9310	8500	7100	7790
9			11800	8400	7300	7870	15600	4600	9730	9700	8600	9190
10			12900	8800	8200	8500	16500	12800	15000	9800	6500	9550
11			14100	9800	8700	9230	18200	16600	17500	10400	7300	9680
12			15000	10600	9800	10200	18700	18100	18400	11600	10400	10900
13			16700	11100	10400	10800	18600	18200	18400	11700	11200	11400
14			18300	11900	11000	11500	18700	18300	18500	11800	1700	5600
15			18200	12800	11800	12400	18400	17800	18200	9200	7300	8330
16			17500	13500	12700	13100	18700	17500	18100	10300	8600	9390
17			19200	14000	13300	13700	18700	18200	18500	12800	10400	11800
18			19100	14500	13800	14200	18800	18400	18600	13100	12700	12900
19			18600	14800	14200	14500	18800	18000	18500	13900	13000	13500
20			17800	15100	14400	14700	19000	18600	18800	14500	13800	14200
21			16200	15000	12500	14300	18900	15700	18400	14800	14300	14500
22			15000	14500	2200	7550	18400	17000	17800	15000	14600	14800
23			14600	15300	8400	14200	18800	17900	18500	15200	14900	15000
24			16000	14800	11700	13400	18900	18500	18700	15200	14900	15100
25			15100	15600	14600	15200	18300	16900	17600	15600	15100	15400
26			14200	15100	14800	14900	18400	12300	17700	15900	15500	15700
27			17400	16000	15000	15500	17100	5100	12100	16100	15700	15900
28			15900	16700	15800	16200	8400	7600	7910	16200	15800	16000
29			16800	17200	16500	16900	8900	8000	8350	15900	14500	15300
30			16500	17800	17100	17400	10400	8200	9190	13600	3300	6330
31				17700	17300	17400	10800	1900	6360	---	---	---
MONTH			15300	17800	599	10900	19000	1900	15800	16200	1300	10200

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	17.5	12.5	15.0	16.0	13.5	14.5	5.0	2.0	3.0	9.0	5.5	7.0
2	18.5	14.5	16.5	15.0	11.5	13.0	2.5	.0	1.5	9.0	5.5	7.5
3	21.5	15.0	18.5	15.5	12.0	13.5	4.5	1.0	3.0	8.0	5.0	6.5
4	19.5	16.0	18.0	16.0	12.0	14.5	7.0	2.5	4.5	8.0	5.0	6.5
5	19.5	13.5	16.5	16.5	13.0	15.0	7.5	4.0	6.0	6.0	3.0	4.5
6	20.5	14.5	17.5	16.0	13.0	14.5	8.5	5.0	6.5	7.5	4.0	5.5
7	22.5	16.0	19.0	15.0	11.5	13.5	9.5	6.5	8.0	5.0	2.0	3.5
8	23.5	19.0	21.0	16.0	11.5	14.0	9.0	6.0	7.5	3.0	.0	1.5
9	23.0	21.0	22.0	18.5	15.0	17.0	11.0	7.0	9.0	4.0	.0	2.0
10	20.5	15.5	17.5	17.0	11.5	13.5	9.0	4.0	6.5	5.5	1.0	3.0
11	18.0	15.5	16.5	11.0	10.0	10.0	3.5	2.0	2.5	7.5	2.5	5.0
12	21.0	16.0	18.5	12.0	10.0	11.0	1.5	.5	1.0	8.0	4.5	6.0
13	24.5	20.0	22.5	14.5	12.0	13.0	1.5	.0	.5	8.0	4.0	6.0
14	23.0	15.5	17.5	14.5	10.5	12.5	2.5	.0	1.0	9.0	4.5	6.5
15	17.5	15.5	16.5	12.0	9.0	10.5	4.0	.5	2.5	9.0	5.0	7.0
16	19.0	15.5	17.0	12.0	9.0	11.0	5.0	1.5	3.0	11.0	7.5	9.0
17	19.0	17.0	18.0	14.0	10.5	12.5	5.5	2.0	3.5	11.0	7.0	9.0
18	18.5	17.0	17.5	17.0	14.0	15.5	4.0	1.5	3.0	11.0	7.5	9.0
19	19.5	18.0	18.5	15.5	10.5	13.5	4.5	.5	2.5	11.0	6.5	9.0
20	19.0	18.0	18.0	11.0	8.0	9.5	6.0	2.0	4.0	12.0	7.0	9.5
21	19.5	17.5	18.0	9.5	8.0	9.0	7.0	2.5	5.0	12.0	9.0	10.5
22	21.5	18.0	19.5	8.5	7.5	8.5	8.5	4.5	6.5	10.0	7.0	8.5
23	22.0	19.0	20.5	9.5	8.5	9.0	8.5	5.0	6.5	9.0	5.0	7.0
24	21.5	18.0	20.0	9.0	7.5	8.0	8.5	5.5	7.0	11.0	6.5	8.5
25	21.5	20.0	20.5	12.5	8.5	10.5	6.0	4.0	5.0	10.0	7.0	8.0
26	21.0	19.0	20.0	14.5	11.0	13.0	7.0	3.0	5.0	8.5	4.5	6.5
27	21.5	19.0	20.0	10.5	8.0	9.0	7.0	4.0	5.5	7.5	3.5	5.5
28	20.5	19.5	20.0	8.0	5.5	7.0	7.0	3.0	5.0	9.5	4.0	6.5
29	19.0	17.0	18.0	6.0	5.5	6.0	7.5	3.5	5.5	10.5	5.5	8.0
30	18.0	15.0	16.5	8.5	5.5	7.0	9.0	4.5	6.5	10.5	5.5	8.0
31	17.5	14.0	16.0	---	---	---	8.5	5.5	7.0	14.0	8.0	11.0
MONTH	24.5	12.5	18.5	18.5	5.5	11.5	11.0	.0	4.5	14.0	.0	7.0

07311700 NORTH WICHITA RIVER NEAR TRUSCOTT, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	16.0	12.0	14.0	16.0	9.5	13.0	20.0	16.5	17.5	21.5	18.5	20.0
2	16.5	14.0	15.0	17.0	11.5	14.0	19.5	16.0	17.0	25.5	17.5	21.5
3	17.5	14.0	15.5	16.5	12.0	14.5	22.0	16.0	18.5	26.5	19.5	22.5
4	15.0	11.5	13.0	17.0	11.0	14.0	22.5	15.0	18.5	26.5	19.0	22.5
5	12.5	9.5	11.5	17.5	12.0	14.5	24.0	16.0	20.5	29.5	20.5	24.5
6	11.0	8.5	9.5	17.5	11.0	14.0	26.5	19.5	23.0	30.5	22.0	26.0
7	9.5	5.0	7.0	15.5	11.5	13.5	27.0	21.5	24.0	28.0	22.5	24.5
8	4.5	3.0	4.0	17.0	10.0	13.5	23.5	17.0	20.5	28.5	21.5	24.0
9	3.0	.5	2.0	18.0	14.0	16.0	18.0	15.0	16.0	22.5	19.5	20.5
10	2.0	.0	1.0	18.0	12.0	15.0	16.5	14.0	15.0	22.0	18.5	20.0
11	3.0	.0	1.0	19.0	13.5	15.5	18.5	14.0	16.0	25.0	20.0	22.0
12	1.5	.0	1.0	18.0	12.0	15.0	23.0	16.5	19.5	25.5	21.0	23.5
13	6.0	.0	3.0	17.0	13.5	15.0	25.5	18.0	21.5	23.5	21.0	22.0
14	9.5	5.0	7.0	16.5	11.0	14.0	22.0	15.5	18.5	---	---	---
15	10.5	5.5	8.0	18.5	12.0	15.5	22.0	14.0	18.0	---	---	---
16	13.0	9.5	11.0	18.5	14.0	16.0	22.5	14.5	18.5	---	---	---
17	15.0	9.5	12.0	19.5	14.0	16.5	25.5	16.5	20.5	---	---	---
18	16.5	11.5	14.0	18.5	13.0	16.0	25.0	18.0	21.5	---	---	---
19	18.0	12.5	15.0	16.0	10.5	13.0	19.5	15.5	17.5	---	---	---
20	16.0	10.5	14.0	14.5	10.0	12.0	22.0	13.5	18.0	---	---	---
21	11.0	7.5	9.0	17.0	8.5	13.0	24.5	17.0	20.5	---	---	---
22	13.0	6.0	9.5	19.0	11.5	15.0	24.5	18.0	21.0	---	---	---
23	15.0	9.0	12.0	20.0	13.0	16.5	25.0	17.0	21.0	---	---	---
24	16.5	10.5	13.5	20.5	14.0	17.0	27.0	19.0	23.0	---	---	---
25	18.5	11.5	15.0	20.0	14.5	17.0	26.5	20.0	23.0	---	---	---
26	20.0	13.5	16.5	22.0	14.5	18.5	24.0	20.0	22.0	---	---	---
27	16.5	12.5	14.5	23.5	17.5	20.0	23.0	19.5	21.0	---	---	---
28	15.0	10.0	12.5	24.0	17.0	20.5	25.0	16.5	20.5	---	---	---
29	---	---	---	23.0	17.5	20.0	27.0	20.5	23.5	---	---	---
30	---	---	---	24.5	17.0	20.5	23.5	20.5	22.0	---	---	---
31	---	---	---	25.0	18.5	21.5	---	---	---	---	---	---
MONTH	20.0	.0	10.0	25.0	8.5	16.0	27.0	13.5	20.0	30.5	17.5	22.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1				---	---	---	33.5	27.0	30.0	---	---	---
2				25.5	24.0	25.0	33.0	27.5	30.0	---	---	---
3				25.5	23.5	24.5	30.5	25.5	28.0	---	---	---
4				26.5	24.5	25.5	31.0	25.5	28.0	---	---	---
5				29.0	25.5	27.0	---	---	---	---	---	---
6				29.0	25.5	27.0	---	---	---	---	---	---
7				29.5	25.5	27.5	---	---	---	---	---	---
8				31.0	26.0	28.5	---	---	---	---	---	---
9				30.5	26.5	28.5	---	---	---	---	---	---
10				30.0	25.0	27.5	---	---	---	---	---	---
11				30.5	25.5	28.0	---	---	---	---	---	---
12				31.0	25.5	28.0	---	---	---	---	---	---
13				28.5	25.0	27.0	---	---	---	27.5	23.0	25.5
14				30.0	24.0	27.0	---	---	---	27.0	22.0	25.0
15				30.5	25.5	28.0	---	---	---	28.5	24.0	26.5
16				30.5	25.5	28.0	---	---	---	28.5	25.0	27.0
17				31.0	25.0	28.0	---	---	---	29.0	25.0	27.5
18				31.0	25.5	28.5	---	---	---	29.0	25.5	27.5
19				32.0	25.0	28.5	---	---	---	28.0	24.0	26.5
20				32.0	26.5	29.0	---	---	---	28.5	24.5	27.0
21				31.5	26.0	28.5	---	---	---	28.5	25.0	27.0
22				30.0	25.0	27.5	---	---	---	28.5	25.0	27.0
23				32.5	27.0	29.5	---	---	---	29.0	25.5	27.5
24				33.0	26.5	29.5	---	---	---	28.5	25.0	27.0
25				32.0	26.5	29.5	---	---	---	27.5	24.0	26.0
26				33.5	26.5	30.0	---	---	---	27.5	24.0	26.0
27				33.5	27.0	30.0	---	---	---	29.0	24.5	27.0
28				33.0	26.5	29.5	---	---	---	27.5	25.0	26.5
29				33.0	26.5	29.5	---	---	---	27.5	24.5	26.0
30				33.0	26.5	29.5	---	---	---	25.5	22.0	23.0
31				33.5	26.5	29.5	---	---	---	---	---	---
MONTH				33.5	23.5	28.0	33.5	25.5	29.0	29.0	22.0	26.5

07311782 SOUTH WICHITA RIVER AT DAM NEAR GUTHRIE, TX

LOCATION.-Lat 33°37'20", long 100°12'31", King County, Hydrologic Unit 11130205, on right bank 1.0 mi downstream from Ranch Road crossing, 2.9 mi upstream from Willow Creek, 6.6 mi east of Guthrie, and 91.5 mi upstream from mouth.

PERIOD OF RECORD.--Chemical analyses: October 1984 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1984 to current year.
WATER TEMPERATURES: October 1984 to current year.

INSTRUMENTATION.--Beginning October 1984, specific conductance and water temperature are recorded continuously at this station.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request. Extremes for period of daily record published in 1985 were incorrect.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 40,300 microsiemens June 28, 1986; minimum daily, 200 microsiemens July 3, 1986.
WATER TEMPERATURES: Maximum daily, 33.0°C Aug. 2, 7, 8, 1985; minimum daily, 1.0°C Feb. 2, 1985.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 40,300 microsiemens June 28; minimum daily, 200 microsiemens July 3.
WATER TEMPERATURES: Maximum daily, 30.0°C June 14, 15, July 20, Aug. 20; minimum daily, 3.5°C Feb. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
OCT									
07...	1220	4.0	36000	--	20.5	4200	4100	1200	290
18...	1030	305	1330	--	17.0	220	180	73	10
19...	1145	71	4930	--	19.0	600	540	180	36
FEB									
24...	1600	3.6	34700	--	20.0	3900	3800	1100	280
MAR									
31...	1325	3.4	35100	--	26.0	3500	3400	1000	250
JUL									
03...	2050	7140	402	7.20	--	120	90	42	4.6
04...	1115	276	3070	7.40	24.0	380	330	120	20
AUG									
04...	1505	4.7	33200	--	29.0	3800	3700	1100	260
SEP									
12...	1520	3.8	20900	7.50	25.5	2000	1900	590	140

DATE	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
OCT									
07...	7800	54	33	107	3300	13000	0.6	5.3	26000
18...	170	5	5.2	44	180	280	0.2	6.7	750
19...	810	15	7.7	61	540	1300	0.2	7.0	2900
FEB									
24...	7500	54	29	120	3200	12000	0.5	8.5	24000
MAR									
31...	7200	55	72	93	3300	12000	0.5	7.3	24000
JUL									
03...	28	1	3.3	34	100	39	0.2	5.4	240
04...	470	11	5.5	52	330	730	0.2	5.8	1700
AUG									
04...	7200	53	33	125	3100	12000	0.5	8.3	24000
SEP									
12...	4400	44	20	120	2100	6900	0.4	7.6	14000

07311782 SOUTH WICHITA RIVER AT DAM NEAR GUTHRIE, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1985	650.0	12300	7700	13500	4100	7270	1000	1820	*
NOV.	1985	206.6	30900	20600	11500	10500	5870	2700	1530	*
DEC.	1985	141.5	32000	21400	8180	10900	4160	2900	1090	*
JAN.	1986	131.90	32700	22000	7830	11100	3970	2900	1040	*
FEB.	1986	110.4	32700	22000	6550	11100	3320	2900	873	*
MAR.	1986	107.7	34900	23800	6930	11900	3470	3200	921	*
APR.	1986	107.61	34600	23500	6840	11800	3430	3100	910	*
MAY	1986	86.30	35200	24100	5610	12100	2810	3200	747	*
JUNE	1986	147.42	35600	24400	9730	12200	4860	3200	1290	*
JULY	1986	4767.00	4710	2890	37200	1600	20400	390	5030	460
AUG.	1986	223.50	31100	20700	12500	10600	6390	2800	1670	*
SEPT	1986	914.27	10600	6240	15400	3500	8710	850	2100	*
TOTAL		7594.20	**	**	142000	**	74600	**	19000	**
WTD.AVG.		21	10800	6910	**	3600	**	930	**	**

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	32700	31200	32200	30000	29500	29800	31800	31600	31800	32300	31700	32000
2	32600	31400	32200	29900	29600	29700	31700	31400	31600	32600	31400	32400
3	32400	31100	32100	30100	29800	30000	31800	31400	31600	33100	31500	32800
4	32700	32200	32400	30100	29800	30000	32100	31700	32000	---	---	---
5	32800	31700	32400	30500	30000	30300	32000	31600	31800	33400	33100	33300
6	33000	31600	32600	30600	29400	30400	31800	31700	31800	34700	33500	34000
7	34800	32800	33600	30700	30400	30500	31800	31600	31700	32800	29400	31500
8	35100	34600	34800	31300	30600	31000	32100	31900	32000	32300	28500	31200
9	35000	33800	34700	31100	30700	30900	32400	31900	32100	33100	30400	32100
10	34600	31400	33900	31200	30900	31100	32700	32300	32500	33000	28900	31900
11	34500	33300	34200	31300	31000	31100	32500	32200	32300	32700	28500	31800
12	34800	33900	34400	31600	31200	31400	32700	32200	32500	32500	29200	32000
13	34100	33700	33800	31400	31000	31200	32200	31700	32000	32600	28100	31700
14	33700	7410	20600	31200	30300	30800	32100	31700	31800	33000	29100	32500
15	11600	6910	8890	30900	30400	30700	32100	31700	31900	33000	30100	32700
16	17300	11900	14800	31200	30600	30900	31900	31500	31700	33400	31600	33100
17	18600	6910	16600	31200	30600	30900	31900	31600	31700	33000	31100	32700
18	11300	1000	2730	31600	31000	31300	32000	31600	31700	32900	32400	32700
19	8010	3100	5040	31700	31000	31400	32000	31600	31800	33000	32700	32800
20	14400	8710	12000	31900	31300	31600	32000	31700	31900	33000	32500	32800
21	17700	14500	16200	32400	32000	32200	31700	31200	31600	33200	32800	33000
22	20600	17900	19400	32400	32000	32200	31900	31300	31700	33400	32600	33100
23	22900	20700	21900	32500	32200	32300	32000	31400	31800	33600	29300	33000
24	24700	23000	23900	32600	31800	32300	32400	31900	32200	33700	32600	33400
25	26300	24700	25500	31700	31300	31500	32600	32100	32200	33500	30900	33100
26	27300	26300	26800	31400	31100	31300	32800	32400	32700	33700	32400	33300
27	27700	27300	27500	31500	31300	31400	33000	32600	32800	33800	28900	32800
28	28300	26300	27700	31900	31300	31600	32800	28600	32000	33200	32300	33000
29	28800	19900	28200	31900	31700	31800	32200	31800	32000	33300	32400	33100
30	29300	28700	29000	31600	31300	31500	32600	30300	32000	33500	32300	33200
31	29600	29000	29300	---	---	---	32400	31900	32200	33600	32700	33300
MONTH	35100	1000	25500	32600	29400	31100	33000	28600	32000	34700	28100	32700

07311782 SOUTH WICHITA RIVER AT DAM NEAR GUTHRIE, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	33500	32800	33200	34600	33300	34100	33500	33100	33300	36200	36000	36100
2	33200	32300	32700	34800	34100	34500	33500	32900	33200	36400	36100	36300
3	33200	32000	32600	34700	33800	34300	34100	33000	33500	36200	35600	35900
4	33500	32600	33000	34600	33300	34200	34400	33300	33800	36100	35100	35400
5	32700	31300	32100	34900	34300	34600	34200	33200	33800	35300	35200	35200
6	32900	31000	32300	35400	34500	35000	34500	33300	33900	35300	34800	35200
7	32600	29000	31900	35200	34200	34800	34200	33500	33900	35300	35100	35200
8	32000	28700	31200	34800	34100	34400	33900	33500	33700	36200	35100	35300
9	32700	30900	31700	35300	34600	35000	33700	33200	33500	35400	35300	35300
10	33300	31000	32700	35500	34700	35200	33600	33200	33400	35400	35100	35300
11	33000	28500	31400	35000	34400	34700	34200	33500	33900	35400	35000	35400
12	32000	28100	29900	35500	34800	35100	34100	33600	34000	---	---	---
13	31900	28600	31300	35700	33100	34500	34400	33500	33900	36000	34800	35100
14	32600	31400	32000	34900	33600	34600	34300	33600	34000	35800	35100	35500
15	32700	32000	32400	34700	34000	34400	34100	33500	33800	36200	35600	35800
16	33300	32300	32800	34900	33800	34500	34200	32800	33700	39100	35500	36400
17	33300	32700	33000	34900	34300	34600	34300	33800	34100	36200	35100	35500
18	33400	32400	33000	34700	34200	34500	---	---	---	35800	35100	35300
19	33700	32600	33200	34800	34100	34400	35500	34600	35100	35200	34600	34900
20	34000	33400	33800	35100	34700	34900	34900	34400	34700	34800	34400	34600
21	34000	33400	33800	35300	34800	35100	35700	34700	35500	34800	34400	34500
22	34000	32900	33300	35300	34800	35100	36000	35600	35800	36200	34300	34600
23	34000	33600	33900	35600	34700	35100	36800	35300	36300	36700	34500	35100
24	34100	33600	33900	35600	35000	35300	36100	35200	35800	35100	34500	34700
25	33700	32700	33500	35500	35000	35300	---	---	---	35100	34700	34900
26	34000	33600	33700	35800	34600	35400	35600	34600	35200	35200	34800	34900
27	34000	33600	33900	36000	34900	35700	35300	34300	34700	35300	34800	34900
28	34100	33700	33900	36600	35800	36200	35800	34900	35500	38900	34900	35400
29	---	---	---	36400	35900	36100	35800	34600	35700	35700	35000	35300
30	---	---	---	36000	35200	35700	36100	35800	36000	35400	33600	34300
31	---	---	---	36100	33400	34900	---	---	---	---	---	---
MONTH	34100	28100	32700	36600	33100	34900	36800	32800	34400	39100	33600	35300

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	33700	33200	33300	36700	31800	34000	31900	31400	31700	26400	25400	25900
2	33400	33000	33200	35800	7010	32800	32200	31800	32100	28100	26400	27000
3	33400	32800	33200	3100	200	1330	32900	31600	32500	27900	27700	27900
4	34000	33100	33600	5510	400	2790	33500	32400	32900	27900	300	12200
5	34400	33800	34100	11500	5810	8650	33800	32600	33300	4100	800	2200
6	34800	33500	34300	15500	11700	13800	34000	32800	33400	8610	4200	6500
7	34500	34000	34200	17400	15300	16600	---	---	---	12300	8810	10600
8	35100	34100	34300	19500	17400	18100	33800	33200	33500	14400	12400	13700
9	35300	34000	34300	22800	19700	20500	34100	33500	33800	16400	14300	15400
10	34500	33200	34100	24900	17700	21700	34200	34100	34100	18400	16600	17700
11	36900	33800	34600	23900	22200	23000	34200	33900	34000	19400	18200	18500
12	37800	32600	34600	26600	23600	24600	34000	33800	34000	20900	19500	20300
13	37600	33700	35000	28500	24300	25600	34000	33800	33900	22100	20900	21700
14	36900	34500	35900	29500	24400	25700	33900	32500	33100	22800	22100	22400
15	37800	34100	35300	26900	25000	26000	32600	31500	32000	23200	16800	18600
16	36200	34000	35000	26800	25700	26200	33100	32600	32900	17400	16000	16900
17	---	---	---	27100	26400	26700	33400	33100	33300	20700	12400	18800
18	---	---	---	27200	26200	26700	33600	33100	33300	22900	20900	21900
19	36900	34700	35300	27900	27100	27400	34500	33100	33400	23800	22700	23200
20	40100	34800	36800	28500	27700	28000	35100	32900	33400	24400	23600	23900
21	37100	35900	36400	30000	27800	28600	33000	32700	32900	25000	24100	24500
22	36600	35700	36200	---	---	---	33200	32200	32800	24900	22900	24700
23	36700	35500	36000	28600	28100	28300	34000	32700	33300	25700	24900	25300
24	38200	35600	36300	29200	28600	29000	34400	33900	34200	26200	25800	26100
25	38600	36000	36800	30100	29000	29600	34400	24400	29700	26400	25800	26300
26	39300	35800	36800	30900	29300	29900	25400	24500	25000	26900	24800	26400
27	37100	35900	36300	31300	30000	30300	25300	25100	25300	27500	26700	27100
28	40300	35600	36600	32000	30100	30700	25300	25100	25300	27500	27000	27200
29	38000	35800	36600	32000	30600	31000	25300	25200	25200	27600	27000	27400
30	39500	33300	37000	32800	30500	31300	25300	25100	25200	27200	26800	27000
31	---	---	---	31700	31000	31500	25400	24200	24800	---	---	---
MONTH	40300	32600	35200	36700	200	24300	35100	24200	31500	28100	300	20900

07311782 SOUTH WICHITA RIVER AT DAM NEAR GUTHRIE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	19.0	14.0	16.0	19.0	17.5	18.5	10.0	6.5	8.0	13.0	9.5	10.5
2	19.5	15.5	16.5	20.0	15.5	17.5	8.0	5.5	6.5	13.5	9.5	11.0
3	21.5	15.5	18.0	21.0	16.0	18.0	9.0	5.5	7.0	11.5	8.5	10.5
4	21.0	16.0	18.0	21.0	16.5	18.5	11.0	7.0	8.5	---	---	---
5	21.0	15.5	17.0	21.5	17.5	19.0	12.0	7.5	9.5	8.5	6.5	7.5
6	21.0	15.0	17.5	21.5	17.5	19.0	11.0	8.5	9.5	10.0	7.0	8.5
7	26.5	16.5	20.0	20.5	16.5	18.0	13.0	9.0	10.5	8.5	6.0	7.0
8	26.0	22.5	24.0	20.5	16.5	18.5	12.5	9.5	10.5	8.5	4.5	6.0
9	25.5	23.0	24.5	22.5	19.0	20.5	14.0	10.0	11.5	9.5	5.0	6.5
10	25.0	21.0	22.5	20.5	17.0	18.5	11.5	7.5	10.0	10.5	6.0	7.5
11	22.0	21.0	21.5	16.5	15.0	15.5	7.5	5.5	6.5	12.0	6.5	8.5
12	26.5	20.5	23.0	16.5	15.0	16.0	6.0	5.0	5.5	12.5	8.0	9.5
13	29.0	22.5	25.5	19.0	16.5	18.0	7.0	4.5	5.5	12.0	7.5	9.5
14	25.0	21.0	22.5	19.0	16.0	18.0	8.0	4.0	6.0	13.0	8.5	10.0
15	22.5	19.0	21.0	18.5	15.0	16.0	10.0	5.5	7.0	13.0	9.0	10.5
16	23.0	20.0	21.5	18.0	14.5	16.0	10.0	6.0	8.0	14.0	10.5	11.5
17	23.0	20.5	22.5	20.0	15.0	17.0	10.5	6.5	8.0	14.5	10.0	12.0
18	22.5	20.0	21.0	22.0	18.0	19.5	8.0	6.5	7.5	14.5	10.0	12.0
19	23.0	21.0	22.0	19.0	15.5	18.0	10.0	6.0	7.5	14.5	10.0	11.5
20	22.5	21.0	21.5	17.0	14.0	15.0	11.0	6.5	8.5	15.0	10.0	12.0
21	23.0	21.5	22.0	15.5	14.0	14.5	12.0	7.5	9.5	14.5	11.5	12.5
22	25.0	22.0	23.5	14.5	13.5	14.0	13.0	9.0	10.5	13.5	10.5	11.5
23	26.5	23.0	24.5	15.5	13.5	14.5	12.5	9.0	10.5	12.5	9.0	10.5
24	26.0	22.5	23.5	15.5	14.0	14.5	12.0	9.0	10.5	14.5	10.0	11.5
25	24.5	22.5	23.5	15.5	13.0	14.5	11.0	8.0	9.0	13.0	9.5	11.0
26	25.0	22.5	23.0	16.5	13.5	15.0	11.0	7.5	9.0	12.0	8.5	9.5
27	25.5	22.0	23.5	13.5	11.0	12.5	11.5	7.5	9.0	11.5	7.5	9.0
28	24.5	22.0	23.0	11.0	10.0	10.5	10.5	7.5	8.5	13.5	8.0	10.0
29	24.5	21.0	22.0	10.0	9.0	9.5	11.0	7.0	8.5	14.0	9.5	11.0
30	23.0	19.5	20.5	12.0	8.5	10.5	12.5	8.0	10.0	14.0	9.5	11.5
31	21.5	18.0	19.5	---	---	---	13.0	9.0	10.5	16.0	11.0	13.0
MONTH	29.0	14.0	21.5	22.5	8.5	16.0	14.0	4.0	8.5	16.0	4.5	10.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	17.5	14.0	15.5	19.0	12.5	15.5				---	---	---
2	17.5	15.5	16.0	20.0	14.0	16.5				---	---	---
3	18.5	15.0	16.0	19.5	14.0	16.5				---	---	---
4	17.5	13.0	15.0	19.0	13.0	15.5				---	---	---
5	14.0	12.0	13.5	20.0	14.0	16.0				---	---	---
6	14.0	10.5	12.0	18.5	13.5	15.5				---	---	---
7	11.5	9.0	10.5	18.0	13.5	15.0				---	---	---
8	9.0	7.0	8.0	18.5	12.5	15.0				---	---	---
9	7.0	6.0	6.5	19.0	14.5	16.5				---	---	---
10	6.0	4.5	5.5	19.5	14.0	16.0				---	---	---
11	7.0	3.5	5.0	20.5	15.0	17.0				---	---	---
12	6.5	5.0	5.5	19.5	14.5	16.5				---	---	---
13	11.0	5.0	7.5	19.5	15.0	16.5				22.5	21.0	21.5
14	13.5	8.5	10.5	18.5	13.5	16.0				21.5	21.5	21.5
15	14.0	9.5	11.5	19.5	15.0	16.5				21.5	21.5	21.5
16	15.0	11.5	13.0	21.0	15.5	17.5				21.5	21.5	21.5
17	17.5	12.0	14.0	21.0	16.0	18.5				22.0	19.0	20.5
18	19.0	13.0	15.5	20.0	14.0	17.0				18.5	17.5	18.0
19	19.5	14.5	16.5	19.0	13.0	15.5				18.5	18.0	18.5
20	18.5	14.5	16.0	18.0	12.0	14.5				19.0	18.5	18.5
21	15.5	11.0	13.0	19.5	12.0	15.0				19.0	19.0	19.0
22	15.5	9.5	12.0	20.0	13.5	16.0				19.5	19.0	19.5
23	17.0	11.0	13.5	21.0	14.0	17.0				20.0	19.5	20.0
24	16.5	12.0	14.0	21.0	15.0	17.5				20.5	20.0	20.5
25	27.0	19.0	22.0	20.0	15.5	17.5				20.5	20.5	20.5
26	28.5	19.5	24.0	21.5	15.5	18.0				21.0	20.5	21.0
27	24.0	14.0	18.5	21.5	17.0	19.0				21.5	21.0	21.0
28	18.0	12.5	15.0	23.0	17.0	19.0				21.0	21.0	21.0
29	---	---	---	21.5	16.5	19.0				23.5	21.0	21.5
30	---	---	---	23.0	16.5	19.0				21.5	20.5	21.0
31	---	---	---	---	---	---				---	---	---
MONTH	28.5	3.5	13.0	23.0	12.0	16.5				23.5	17.5	20.5

07311782 SOUTH WICHITA RIVER AT DAM NEAR GUTHRIE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	21.5	21.5	21.5	27.5	26.0	26.5	28.5	27.5	28.0	24.0	23.5	24.0
2	21.5	21.5	21.5	27.5	25.5	26.5	29.0	27.5	28.0	23.5	23.0	23.0
3	22.0	21.5	21.5	24.5	20.5	23.0	29.0	26.5	27.5	23.0	22.5	23.0
4	22.5	21.5	22.0	27.5	23.0	24.5	27.5	26.5	27.0	23.0	20.5	21.5
5	23.0	22.5	22.5	28.0	24.0	25.5	28.5	26.0	27.0	23.5	20.5	21.5
6	23.0	23.0	23.0	27.0	25.5	26.0	29.5	26.5	28.0	25.0	21.5	23.0
7	23.0	23.0	23.0	27.5	25.0	26.0	---	---	---	24.0	20.0	22.0
8	23.5	23.0	23.5	27.0	26.0	26.5	27.5	26.5	27.0	21.0	19.5	20.0
9	24.5	23.5	24.0	27.5	27.0	27.0	27.5	27.0	27.0	22.5	20.5	21.5
10	24.5	24.0	24.5	27.5	26.5	27.0	27.5	27.5	27.5	23.5	22.5	23.0
11	25.0	24.5	24.5	27.0	26.5	27.0	28.0	27.5	27.5	24.5	23.0	24.0
12	25.0	24.5	25.0	27.5	27.0	27.0	28.5	27.5	28.0	25.0	24.0	24.5
13	26.0	25.0	25.5	28.0	26.5	27.0	29.0	28.0	28.5	25.0	24.0	24.5
14	30.0	25.5	27.5	27.5	25.5	26.5	29.0	27.5	28.0	25.5	24.0	25.0
15	30.0	23.5	26.5	27.5	25.5	27.0	28.5	27.0	28.0	25.5	24.0	25.0
16	27.0	24.5	26.0	28.0	26.0	27.0	28.0	28.0	28.0	26.0	25.5	25.5
17	---	---	---	29.0	25.0	27.0	28.5	28.0	28.0	26.5	25.0	25.5
18	---	---	---	29.0	25.0	26.5	28.5	28.0	28.5	27.0	25.5	26.0
19	26.0	25.0	25.5	29.5	24.5	27.0	29.5	28.5	29.0	27.5	25.0	26.0
20	28.0	25.5	27.0	30.0	25.0	27.0	30.0	29.0	29.5	27.5	24.0	25.5
21	28.0	27.5	27.5	29.0	25.0	27.0	29.5	28.0	28.5	27.5	24.5	25.5
22	27.5	27.0	27.0	---	---	---	28.5	27.5	28.0	25.5	24.0	25.0
23	27.0	26.5	27.0	28.0	27.0	27.0	28.5	27.0	28.0	26.5	25.0	25.5
24	26.5	26.5	26.5	28.0	26.5	27.0	28.0	27.5	27.5	26.0	25.0	25.5
25	26.5	26.5	26.5	26.0	27.0	27.5	28.0	25.0	26.0	26.0	25.0	25.5
26	26.5	26.5	26.5	28.5	27.0	27.5	24.5	24.5	24.5	25.0	24.0	24.5
27	26.5	26.5	26.5	28.5	27.0	28.0	25.0	24.5	25.0	25.5	24.5	25.0
28	26.5	26.5	26.5	29.0	27.5	28.0	25.0	25.0	25.0	26.0	24.5	25.0
29	26.5	26.0	26.5	29.0	27.0	28.0	25.5	25.0	25.0	25.5	25.0	25.0
30	26.5	26.0	26.5	28.5	27.0	28.0	25.5	25.5	25.5	25.0	24.0	24.5
31	---	---	---	29.0	27.5	28.0	25.5	23.5	24.0	---	---	---
MONTH	30.0	21.5	25.0	30.0	20.5	27.0	30.0	23.5	27.0	27.5	19.5	24.0

07311783 SOUTH WICHITA RIVER BELOW DAM NEAR GUTHRIE, TX

LOCATION.--Lat 33°37'19", long 100°12'31", King County, Hydrologic Unit 11130205, on right bank 1.1 mi downstream from ranch road crossing, 2.8 mi upstream from Willow Creek, 6.6 mi east of Guthrie, and 91.4 mi upstream from confluence with North Wichita River.

DRAINAGE AREA.--223 mi^2.

PERIOD OF RECORD.--September 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,590.0 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Apr 23 to June 3 and Aug 7. Records good except those for periods of estimated discharge, which are poor. There are minor diversions upstream due to limited operation of diversion pumps. Discharge data at this station used for water quality load determinations at station 07311782. Gage-height telemeter at station via Sutron data collection platform.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 13,100 ft^3/s July 3 (gage height, 19.01 ft); no flow for several periods during year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage of 20.8 ft since at least 1950, occurred in May 1954, at station 07311780 located about 1.1 mi upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base discharge of 300 ft^3/s and maximum (*).

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 18	0515	812	8.53	Sept. 4	1615	1,190	8.59
July 3	1630	*13,100	*19.01				

Minimum discharge, no flow for several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	9.6	4.6	4.2	4.4	3.7	3.3	3.5	.50	14	12	3.6
2	4.0	9.6	4.5	4.2	4.4	3.7	3.4	2.5	1.5	40	9.9	3.7
3	4.0	9.6	4.6	2.6	4.3	3.5	3.6	1.5	3.0	3520	9.4	4.2
4	4.1	9.6	4.8	.00	4.4	3.5	3.6	2.0	2.5	572	8.5	484
5	4.0	9.6	4.9	1.3	4.5	3.5	3.6	2.5	5.2	72	9.0	219
6	4.0	9.6	4.9	7.5	4.3	3.5	3.8	2.0	5.3	47	20	53
7	4.0	9.4	4.9	4.5	4.1	3.5	3.8	6.0	5.6	21	.00	31
8	4.4	8.5	4.9	4.5	4.0	3.3	3.7	3.0	5.2	12	7.8	12
9	4.4	8.1	4.7	4.5	3.9	3.3	3.8	1.5	3.1	26	12	15
10	4.2	7.9	4.7	4.7	3.9	3.3	4.0	1.0	.62	26	6.8	11
11	4.2	7.4	4.5	4.8	4.0	3.3	4.0	1.0	4.2	26	5.6	3.5
12	4.2	7.0	4.5	4.7	4.5	3.4	4.1	.00	4.9	26	4.9	3.8
13	4.2	7.0	4.5	4.7	4.0	3.5	4.2	2.0	5.0	26	4.0	3.5
14	68	7.3	4.5	4.7	3.6	3.3	4.4	1.5	14	26	2.5	15
15	11	7.0	4.4	4.6	3.7	3.5	4.4	.50	5.9	26	6.0	8.8
16	4.2	7.0	4.5	4.7	3.9	3.4	4.5	1.5	2.7	26	5.2	6.1
17	16	6.8	4.6	4.5	3.9	3.5	2.1	3.0	.00	37	4.4	2.3
18	286	6.2	4.5	4.5	3.7	3.5	.00	1.5	.00	26	3.9	7.1
19	67	5.5	4.5	4.4	3.8	3.4	.81	1.0	3.8	25	4.0	8.6
20	22	5.1	5.1	4.4	3.7	3.4	4.4	2.5	11	23	2.4	3.7
21	15	5.1	4.5	4.4	3.7	3.5	2.3	2.0	3.2	16	3.2	2.7
22	13	5.1	4.5	4.4	3.6	3.6	2.0	2.0	6.7	.00	3.9	.86
23	12	5.1	4.6	4.4	3.6	3.4	23	1.5	6.5	4.0	5.3	2.2
24	11	5.1	4.5	4.4	3.6	3.4	1.8	1.0	6.7	15	4.3	1.3
25	11	4.9	4.5	4.2	3.7	3.4	.00	2.5	6.7	16	20	.11
26	10	4.7	4.5	4.2	3.7	3.5	1.5	2.5	6.5	17	19	1.5
27	10	4.7	4.4	4.3	3.8	3.6	3.0	2.8	6.7	17	14	1.6
28	10	4.7	4.3	4.4	3.7	3.6	2.0	3.0	6.7	17	4.8	1.6
29	10	4.7	4.2	4.4	---	3.6	1.0	25	6.7	17	3.6	1.7
30	10	4.7	4.2	4.4	---	3.6	1.5	4.0	7.0	17	3.3	1.8
31	10	---	4.2	4.4	---	3.5	---	.00	---	14	3.8	---
TOTAL	650.0	206.6	141.5	131.90	110.4	107.7	107.61	86.30	147.42	4767.00	223.50	914.27
MEAN	21.0	6.89	4.56	4.25	3.94	3.47	3.59	2.78	4.91	154	7.21	30.5
MAX	286	9.6	5.1	7.5	4.5	3.7	23	25	14	3520	20	484
MIN	4.0	4.7	4.2	.00	3.6	3.3	.00	.00	.00	.00	.00	.11
AC-FT	1290	410	281	262	219	214	213	171	292	9460	443	1810

WTR YR 1986 TOTAL 7594.20 MEAN 20.8 MAX 3520 MIN .00 AC-FT 15060

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX

LOCATION.--Lat 33°38'39", long 99°48'02", Knox County, Hydrologic Unit 11130205, on right bank at upstream side of bridge on State Highway 6, 2 mi downstream from Panhandle and Santa Fe Railway Co. bridge, 4 mi north of Benjamin, and 41 mi upstream from confluence with North Wichita River.

DRAINAGE AREA.--584 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1952-57 (occasional low-flow measurements), December 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,334.23 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 2, 1960, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. There are low flow diversions to evaporation lake upstream at South Wichita River at Low Flow Dam near Guthrie (station 07311782). There were other minor (daily) diversions above station during the year. Gage-height telemeter at station via Sutron Data Collection Platform.

AVERAGE DISCHARGE.--26 years (water years 1961-86), 38.3 ft³/s (0.89 in/yr), 27,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft³/s Oct. 18, 1960 (gage height, 15.40 ft); maximum gage height, 16.70 ft Oct. 20, 1983; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1903 occurred in September 1919 (stage and discharge unknown), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 14	1430	1,550	12.03	July 4	2100	*3,570	15.51
Oct. 18	0700	3,130	14.75	Sept. 4	2300	2,090	14.48
May 16	0100	3,420	14.89				

Minimum discharge, 1.1 ft³/s May 24, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	22	17	9.1	7.9	6.8	5.0	2.1	147	20	11	71
2	7.9	22	15	9.1	8.0	6.8	6.1	1.7	22	371	11	24
3	6.3	21	15	8.6	8.8	6.5	6.5	1.9	6.5	502	10	24
4	4.7	21	14	8.6	8.0	6.7	6.0	1.7	260	1790	10	1130
5	4.1	20	13	8.2	9.1	7.1	5.9	1.6	272	1340	14	1960
6	4.0	20	13	8.6	9.6	7.0	5.3	1.5	24	228	11	824
7	3.3	19	13	7.2	9.9	6.9	5.3	1.5	10	125	13	158
8	3.7	19	13	6.2	9.7	6.8	5.2	1.5	6.8	84	355	106
9	3.9	19	13	9.3	9.3	7.2	4.8	7.6	78	59	69	86
10	95	18	12	9.1	9.2	7.1	4.9	3.4	17	47	16	90
11	22	18	12	8.4	8.1	6.9	5.0	1.7	5.4	43	13	118
12	19	19	12	8.2	9.2	9.1	4.8	1.4	4.8	37	10	58
13	17	19	12	7.8	8.4	9.0	4.9	1.3	4.8	32	8.7	44
14	911	93	12	7.8	8.1	7.4	4.1	16	4.1	28	7.0	223
15	156	47	13	7.6	8.2	8.4	4.1	337	4.0	26	8.1	47
16	76	27	12	7.6	8.1	8.0	3.8	1340	3.5	25	7.9	73
17	402	20	12	7.9	8.0	8.1	3.7	45	91	23	7.2	45
18	2500	18	12	7.4	8.2	7.8	3.4	8.5	11	22	9.7	34
19	895	16	12	7.3	7.9	6.6	3.8	3.9	9.1	26	7.6	33
20	158	15	11	7.4	7.5	6.3	3.9	2.5	19	22	7.0	28
21	96	15	11	7.6	6.9	6.5	3.7	2.1	28	20	6.3	30
22	68	15	11	7.1	7.1	6.4	3.3	1.7	12	26	6.2	27
23	51	15	10	7.5	7.2	6.3	2.9	1.4	12	18	7.3	27
24	43	15	10	7.8	6.9	6.3	3.0	1.1	7.3	17	10	26
25	35	15	10	7.8	7.3	5.9	2.3	11	5.4	15	8.1	25
26	32	16	9.9	7.7	7.3	5.6	3.2	6.0	4.7	13	133	24
27	29	15	9.7	7.8	7.0	5.6	3.6	2.1	5.0	13	131	24
28	26	15	9.5	8.1	6.7	5.8	3.7	1.9	35	13	54	25
29	25	14	9.4	7.8	---	5.9	2.8	1.7	37	12	24	43
30	24	15	9.5	7.5	---	6.0	2.2	1.8	3.0	12	16	63
31	23	---	9.2	8.0	---	5.3	---	1.9	---	11	103	---
TOTAL	5747.4	643	367.2	246.1	227.6	212.1	127.2	1814.5	1149.4	5020	1105.1	5490
MEAN	185	21.4	11.8	7.94	8.13	6.84	4.24	58.5	38.3	162	35.6	183
MAX	2500	93	17	9.3	9.9	9.1	6.5	1340	272	1790	355	1960
MIN	3.3	14	9.2	6.2	6.7	5.3	2.2	1.1	3.0	11	6.2	24
CFSM	.32	.04	.02	.01	.01	.01	.01	.10	.07	.28	.06	.31
IN.	.37	.04	.02	.02	.01	.01	.01	.12	.07	.32	.07	.35
AC-FT	11400	1280	728	488	451	421	252	3600	2280	9960	2190	10890

CAL YR 1985 TOTAL 13917.94 MEAN 38.1 MAX 2500 MIN .00 CFSM .07 IN. .89 AC-FT 27610
WTR YR 1986 TOTAL 22149.6 MEAN 60.7 MAX 2500 MIN 1.1 CFSM .10 IN. 1.41 AC-FT 43930

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: July 1949 to March 1959, July 1966 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to current year.
WATER TEMPERATURES: October 1967 to current year.

INSTRUMENTATION.--Since August 1968, specific conductance is recorded continuously at this station. Since April 1983, water temperature is recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum and minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 48,900 microsiemens May 13, 1971; minimum daily, 500 microsiemens June 4, 1986.
WATER TEMPERATURES: Maximum daily, 38.5°C July 30, 1983; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 35,800 microsiemens Mar. 30, 31; minimum daily, 500 microsiemens June 4.
WATER TEMPERATURES: Maximum daily, 33.5°C May 15, June 12; minimum daily, 0.0°C on several days during December, January, and February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT									
19...	1350	6.7	2110	--	19.0	490	410	160	21
DEC									
29...	0930	9.4	26600	--	3.0	3700	3600	1000	300
MAR									
31...	1140	5.6	32700	--	22.5	4500	4400	1200	360
MAY									
16...	1145	1010	4000	7.20	19.0	780	730	240	43
19...	0900	3.9	10200	7.80	20.0	2200	2100	650	140
JUL									
10...	1035	47	17700	7.60	24.0	2900	2700	830	200

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT									
19...	240	5	6.8	77	420	340	0.2	6.1	1200
DEC									
29...	5300	39	22	144	3000	9200	0.2	4.5	19000
MAR									
31...	6500	44	31	128	3400	11000	0.4	2.9	23000
MAY									
16...	540	9	9.4	46	670	910	0.2	6.6	2400
19...	1600	15	14	93	2000	2800	0.3	6.8	7300
JUL									
10...	3300	28	32	166	2100	5500	0.3	7.5	12000

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	5747.4	3040	2100	32500	920	14200	440	6880	530
NOV. 1985	643	18700	12900	22400	6000	10400	2300	4000	*
DEC. 1985	367.2	24500	16900	16800	8000	7910	2800	2760	*
JAN. 1986	246.1	28600	19700	13100	9500	6290	3000	2020	*
FEB. 1986	227.6	27900	19300	11800	9200	5670	3000	1840	*
MAR. 1986	212.1	32200	22200	12700	10800	6200	3200	1820	*
APR. 1986	127.2	31300	21600	7420	10500	3600	3200	1080	*
MAY 1986	1814.5	3500	2410	11300	1100	5170	510	2500	610
JUNE 1986	1149.4	6410	4420	13700	1900	6030	920	2850	1100
JULY 1986	5020	4820	3320	45000	1500	20300	650	8770	800
AUG. 1986	1105.1	12200	8410	25100	3900	11500	1500	4570	*
SEPT 1986	5490	4770	3290	48800	1400	21400	690	10300	830
TOTAL	22149.6	**	**	261000	**	119000	**	49400	**
WTD.AVG.	61	6340	4370	**	2000	**	830	**	1000

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	12600	---	---	18200			22600	---	---	26500
2	---	---	17600	---	---	18900			23400	---	---	26700
3	---	---	21500	---	---	19400			24000	---	---	26800
4	---	---	25800	---	---	19700			24200	---	---	26600
5	---	---	31600	---	---	20200			24100	---	---	26800
6	---	---	31900	---	---	20800			19100	28600	28100	28300
7	---	---	32500	---	---	21300			19800	28700	28600	28700
8	31200	30100	30700	---	---	21700			21300	28700	28100	28500
9	31100	30400	30700	---	---	22000			23600	29000	28000	28600
10	---	---	3510	---	---	22400			24500	29300	28000	28600
11	---	---	7460	---	---	23000			25000	29100	28000	28500
12	---	---	9900	---	---	23100			23900	29000	28000	28600
13	---	---	11800	---	---	23400			24300	29100	28000	28700
14	---	---	1580	20700	900	12500			24000	29000	28000	28600
15	---	---	8510	---	---	10200			24400	29100	28100	28700
16	---	---	14600	14300	9000	13200			25100	29000	28600	28800
17	---	---	3000	16200	13900	15700			25700	29000	28000	28800
18	---	---	1070	---	---	19500			25400	29200	28100	28900
19	---	---	2890	---	---	20800			26100	29200	28200	29000
20	---	---	3500	---	---	21200			26200	29000	28000	28800
21	---	---	4700	---	---	21000			26100	28800	28600	28700
22	---	---	7040	---	---	20900			24900	29200	28100	28800
23	---	---	8980	---	---	20700			26300	29900	28300	29300
24	---	---	10500	---	---	21000			26500	30100	29800	30000
25	---	---	11800	24700	17900	21100			26600	30200	28900	29900
26	---	---	12800	---	---	22600			26700	30100	28900	29900
27	---	---	13700	---	---	23400			26600	30200	28300	29800
28	---	---	14800	---	---	24000			26700	30100	28900	29900
29	---	---	15600	---	---	24200			26600	30200	29500	29900
30	---	---	16400	---	---	24100			26500	30300	29000	29700
31	---	---	17700	---	---	---			26700	30000	28300	29200
MONTH	31200	30100	14100	24700	900	20300			24700	30300	28000	28700

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	29600	28800	29200	31900	29600	30900	31300	30800	31000	---	---	31000
2	29500	28900	29200	31900	30200	30900	31000	29300	30000	---	---	31700
3	29600	28800	29200	32200	30500	31400	30400	29800	30200	---	---	32200
4	29700	29100	29500	32300	30300	31400	30900	30000	30400	---	---	32500
5	29900	27000	28600	32100	29900	31400	---	---	32200	---	---	33500
6	---	---	25300	33600	30500	31400	---	---	32400	---	---	32800
7	---	---	24600	32800	30700	31700	---	---	32700	---	---	33000
8	---	---	27000	33700	30800	31500	---	---	32600	---	---	34100
9	---	---	23800	32400	30800	31800	---	---	32700	---	---	30400
10	---	---	26800	33500	30600	32300	---	---	32400	---	---	25200
11	---	---	27800	33100	30700	32000	---	---	32000	---	---	32500
12	---	---	27300	33200	14800	29700	---	---	31900	---	---	32800
13	---	---	27500	31000	11000	22700	---	---	32400	34600	31600	32600
14	---	---	27800	33100	30800	32100	---	---	31500	34100	600	12000
15	---	---	27500	33200	30900	32300	---	---	31600	---	---	4420
16	---	---	27800	33700	30900	32400	---	---	31500	---	---	2380
17	---	---	28000	33100	31700	32400	---	---	31900	---	---	3550
18	---	---	27900	34200	31100	32700	---	---	32000	---	---	6330
19	---	---	28100	34900	34000	34300	---	---	31100	---	---	9790
20	---	---	28400	35400	34100	34500	---	---	30000	---	---	9620
21	---	---	28700	35400	32900	33900	---	---	31900	---	---	11300
22	---	---	28600	35000	32500	33700	---	---	31800	---	---	10000
23	---	---	28500	35400	33200	34000	---	---	31600	---	---	12200
24	---	---	28500	35500	33500	34500	---	---	29700	---	---	13200
25	30000	28200	29200	35300	33300	34100	---	---	31200	---	---	8250
26	30400	28600	29600	35600	32700	34300	---	---	30000	---	---	7330
27	31300	30100	30500	34600	33500	34200	---	---	29200	---	---	6780
28	32000	30400	31400	35300	33600	34500	---	---	29800	---	---	9460
29	---	---	---	35600	34300	35000	---	---	30000	---	---	11300
30	---	---	---	35800	33600	34800	---	---	30400	---	---	11100
31	---	---	---	35800	31000	33100	---	---	---	---	---	11900
MONTH	32000	27000	28100	35800	11000	32400	31300	2930	31300	34600	600	18600

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	1620			8720			26400	---	---	3180
2	---	---	2570			3450			26500	---	---	8190
3	---	---	12800			2420			26700	---	---	8670
4	24200	500	7870			1680			26800	---	---	4540
5	13700	1000	3480			1360			27300	---	---	2460
6	---	---	8980			8410			28700	---	---	1920
7	14800	13000	13700			11300			19800	---	---	4150
8	17700	13100	15300			15100			3450	---	---	6010
9	23100	4600	13300			16800			13200	---	---	8010
10	10500	7000	7230			17700			12900	---	---	7500
11	---	---	8040			18900			12100	---	---	4640
12	---	---	10700			20200			12200	---	---	9750
13	---	---	13400			20500			14400	15700	12800	14300
14	---	---	17700			21500			16400	15800	5400	8120
15	---	---	20600			22200			15700	---	---	6530
16	---	---	22300			22800			17400	---	---	13700
17	---	---	4240			23300			19500	---	---	15400
18	---	---	6900			23700			21800	---	---	15500
19	---	---	9580			24100			23900	---	---	14900
20	---	---	14300			24000			20200	---	---	14900
21	---	---	11500			23200			20900	---	---	15100
22	---	---	8330			19900			23600	---	---	15200
23	---	---	7200			24200			24600	---	---	15000
24	---	---	10300			24900			24500	---	---	16800
25	15400	12600	13600			25100			29400	---	---	18200
26	---	---	16900			25200			24700	---	---	18800
27	---	---	18900			25200			13900	---	---	18900
28	---	---	4730			25300			14100	---	---	18700
29	---	---	4210			25700			12400	---	---	12500
30	---	---	5950			26000			12700	---	---	5260
31	---	---	---			26300			2950	---	---	---
MONTH	24200	500	10500			18700			19000	15800	5400	10900

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	---	---	---	10.0	.0	5.0	7.0	5.0	6.0
2	---	---	14.5	---	---	---	9.0	.0	6.0	7.5	5.5	7.0
3	---	---	---	---	---	---	6.0	1.0	3.5	7.0	4.0	6.5
4	---	---	15.5	---	---	---	7.5	3.0	5.5	7.0	5.0	6.0
5	---	---	---	---	---	---	7.5	3.0	6.0	6.0	4.5	5.0
6	---	---	17.0	---	---	---	8.5	4.0	8.0	8.0	5.0	7.0
7	---	---	19.0	---	---	---	9.5	8.0	9.0	4.5	.5	2.5
8	26.0	18.5	21.5	---	---	---	9.5	8.0	9.0	3.5	.0	1.5
9	24.0	21.0	22.0	---	---	---	10.0	7.0	9.5	3.0	.0	1.5
10	21.5	14.0	17.0	---	---	---	10.0	5.0	7.5	5.5	.0	3.5
11	16.5	15.0	15.5	---	---	---	7.0	.0	5.5	7.5	2.0	5.5
12	21.5	16.0	18.0	---	---	---	5.0	.0	2.5	8.0	3.0	2.0
13	24.5	20.0	22.0	---	---	---	4.5	.0	2.0	7.5	4.0	6.0
14	23.0	16.0	17.5	---	---	---	4.0	.0	2.0	8.5	4.5	6.0
15	19.5	16.0	17.5	---	---	---	4.5	.0	3.0	9.0	5.0	7.5
16	20.0	15.5	18.0	---	---	---	4.5	1.0	3.0	10.5	7.5	9.5
17	19.5	17.0	18.0	---	---	---	5.0	1.0	3.5	10.5	7.0	9.0
18	19.0	17.0	17.5	---	---	---	5.0	4.0	4.5	10.5	7.0	9.0
19	19.5	18.0	18.5	---	---	---	4.5	2.0	3.5	10.5	6.5	9.0
20	19.0	18.0	18.5	---	---	---	5.0	3.0	4.5	11.5	7.0	10.0
21	19.5	17.5	18.5	---	---	---	6.0	4.5	5.0	11.5	9.0	10.5
22	21.5	18.0	19.5	---	---	---	7.0	4.0	6.0	9.5	5.0	8.0
23	22.0	19.0	20.5	---	---	---	7.5	5.0	7.0	9.5	3.0	7.5
24	27.0	18.0	20.5	---	---	---	7.5	6.0	7.0	10.5	7.0	9.0
25	21.0	19.0	20.0	13.0	11.5	12.0	6.5	4.5	5.5	9.0	6.0	7.5
26	20.0	19.0	19.5	14.5	13.0	14.0	6.0	2.0	4.0	8.0	5.0	6.5
27	20.0	19.0	19.0	13.5	10.0	11.5	6.0	4.0	5.0	6.5	4.0	5.5
28	19.5	19.5	19.5	11.0	10.0	10.0	5.5	3.0	5.0	8.0	5.0	6.5
29	---	---	---	10.0	9.0	9.5	6.0	4.5	5.0	8.5	7.0	8.0
30	---	---	---	---	---	---	7.0	4.5	6.0	9.0	7.0	8.5
31	---	---	---	---	---	---	7.0	5.0	6.5	11.0	8.5	9.5
MONTH	27.0	14.0	18.5	14.5	9.0	11.5	10.0	.0	5.5	11.5	.0	6.5

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	12.5	10.0	11.5	14.5	10.0	12.5	19.5	16.0	17.0	22.0	21.0	21.5
2	13.5	12.0	13.0	15.0	12.0	14.0	20.0	16.0	17.5	23.0	20.0	21.5
3	14.0	12.5	13.5	15.0	12.0	14.0	21.0	16.5	18.5	22.5	20.5	21.5
4	14.0	12.0	13.0	17.0	11.5	13.5	19.0	16.5	18.0	22.5	20.5	21.5
5	13.0	11.5	12.0	15.0	12.0	14.0	21.0	17.5	19.5	24.0	21.0	22.5
6	11.5	10.0	10.5	17.5	12.0	14.5	23.0	19.5	21.0	25.0	22.5	23.5
7	11.0	3.5	9.0	14.5	12.0	13.0	24.0	21.0	22.5	25.0	23.5	24.0
8	7.0	2.0	4.0	17.0	10.0	13.5	23.5	18.5	21.0	24.5	23.0	23.5
9	5.0	2.0	2.5	16.5	14.5	15.5	18.5	16.0	17.5	23.5	18.5	21.5
10	4.0	2.0	2.5	16.0	13.5	15.0	16.5	15.5	16.0	29.5	17.5	22.0
11	2.5	.0	1.5	16.5	14.5	15.5	17.5	15.0	16.0	33.0	18.5	24.5
12	2.5	.0	2.0	15.5	12.0	14.0	20.0	17.0	18.0	29.0	19.5	23.0
13	5.0	.0	3.0	14.0	10.0	12.0	21.0	18.5	20.0	33.5	19.0	25.0
14	7.0	5.0	6.0	17.0	11.5	13.5	20.0	17.0	18.5	32.0	18.0	23.5
15	8.5	7.0	7.0	17.0	13.5	15.5	19.0	16.5	17.5	33.5	10.5	22.0
16	10.5	8.5	9.5	17.0	14.0	15.5	19.0	16.5	18.0	21.5	11.0	18.0
17	12.5	10.0	11.0	17.5	14.5	16.0	20.5	17.5	19.0	20.5	14.5	16.5
18	14.0	12.0	12.5	17.0	14.5	16.0	21.5	19.0	20.0	21.5	13.5	17.5
19	15.0	12.5	14.0	14.5	12.0	13.5	20.0	17.5	18.5	26.0	17.0	21.5
20	15.0	12.0	14.0	18.5	10.0	14.0	18.5	16.0	17.5	26.5	18.5	22.5
21	---	---	---	17.0	10.0	13.5	20.0	17.5	19.0	28.0	19.5	22.5
22	---	---	---	16.0	12.0	14.5	20.5	18.5	19.5	27.5	20.0	23.5
23	---	---	---	17.0	13.0	15.0	20.5	19.0	19.5	28.5	20.5	24.0
24	---	---	---	18.0	14.5	16.0	22.0	19.5	20.5	28.5	21.5	24.5
25	16.5	12.0	14.5	17.5	15.0	16.5	22.5	20.5	21.5	27.0	21.0	23.0
26	18.0	13.5	16.0	19.0	15.0	17.5	22.0	21.0	21.5	22.5	21.0	21.5
27	16.0	12.0	14.5	20.0	17.0	19.0	22.0	21.0	21.5	23.5	19.5	21.5
28	17.0	10.0	12.0	20.5	17.5	19.0	21.5	19.5	20.5	25.5	19.5	22.5
29	---	---	---	19.5	17.5	19.0	23.5	21.0	22.0	23.0	21.0	21.5
30	---	---	---	20.5	17.0	19.0	23.0	22.0	22.5	21.5	20.0	21.0
31	---	---	---	20.0	18.5	19.5	---	---	---	22.5	20.5	21.5
MONTH	18.0	.0	9.5	20.5	10.0	15.5	24.0	15.0	19.5	33.5	10.5	22.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	24.5	20.0	22.0	---	---	---	29.0	26.5	28.0	---	---	---
2	28.5	21.0	24.0	---	---	---	28.5	27.0	27.5	---	---	---
3	30.5	23.5	26.5	---	---	---	30.5	25.5	27.5	---	---	---
4	26.5	22.0	24.0	---	---	---	31.0	29.0	30.5	---	---	---
5	30.5	20.5	25.0	---	---	---	---	---	---	---	---	---
6	31.5	24.0	27.5	---	---	---	---	---	---	---	---	---
7	28.5	26.0	27.0	---	---	---	---	---	---	---	---	---
8	28.0	26.0	27.0	---	---	---	23.0	19.0	21.5	---	---	---
9	28.0	26.0	27.0	---	---	---	29.0	23.5	25.5	---	---	---
10	32.0	24.5	28.0	---	---	---	28.0	25.0	25.5	---	---	---
11	31.0	21.5	26.0	28.5	25.5	27.0	29.5	24.5	26.5	---	---	---
12	33.5	22.0	27.5	28.0	25.5	26.5	30.0	26.5	28.0	25.0	23.0	24.5
13	32.0	23.5	27.0	27.0	25.0	26.0	29.0	26.0	27.5	25.0	22.0	23.5
14	32.0	23.5	27.0	27.0	24.5	25.5	28.0	25.0	27.0	26.0	21.0	24.0
15	32.5	21.5	27.0	27.5	24.5	26.0	28.0	25.5	26.5	27.0	23.0	25.0
16	33.0	23.5	26.5	27.0	24.5	26.0	31.5	26.5	28.5	26.0	24.5	25.0
17	25.0	20.5	23.0	27.5	24.5	26.0	32.0	28.0	30.5	25.0	24.0	24.5
18	25.0	23.5	24.0	28.0	24.5	26.5	32.5	28.5	30.5	25.0	24.5	24.5
19	26.0	24.0	25.0	28.5	24.5	26.5	32.5	29.5	31.0	25.0	24.0	24.5
20	26.0	25.0	25.5	28.0	25.5	27.0	31.5	28.5	30.5	24.5	24.0	24.0
21	26.0	25.5	25.5	28.5	25.5	27.0	30.0	28.0	29.0	24.5	24.0	24.0
22	26.5	25.5	26.0	28.0	25.5	26.5	29.5	26.5	28.0	24.5	23.5	24.0
23	26.5	26.0	26.0	27.5	26.0	27.0	29.0	27.0	28.0	24.5	24.0	24.0
24	26.5	26.0	26.5	27.5	25.5	26.5	29.0	26.0	27.5	24.5	24.0	24.0
25	29.0	26.0	27.0	27.5	25.5	27.0	27.5	25.5	26.0	24.5	23.5	24.0
26	28.0	24.5	26.5	28.0	26.0	27.5	25.5	24.0	25.0	24.0	23.5	23.5
27	28.0	24.5	26.5	28.0	26.5	27.5	---	---	---	24.0	23.5	24.0
28	---	---	---	28.0	26.0	27.5	---	---	---	24.0	23.5	24.0
29	---	---	---	28.0	26.0	27.5	---	---	---	24.0	23.5	24.0
30	---	---	---	28.5	26.5	27.5	---	---	---	24.0	22.0	23.0
31	---	---	---	28.5	26.5	27.5	---	---	---	---	---	---
MONTH	33.5	20.0	26.0	28.5	24.5	27.0	32.5	19.0	27.5	27.0	21.0	24.0

07312000 LAKE KEMP NEAR MABELLE, TX

LOCATION.--Lat 33°45'30", long 99°09'03", Baylor County, Hydrologic Unit 11130206, in outlet gate tower near center of dam on Wichita River, 6.2 mi north of Mabelle, 13 mi northeast of Seymour, and 126.7 mi upstream from mouth.

DRAINAGE AREA.--2,086 mi².

PERIOD OF RECORD.--October 1922 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1972, nonrecording gage at different site and at datum 2.40 ft higher.

REMARKS.--The lake is formed by a rolled earthfill dam 8,890 ft long. The original dam was completed Aug. 25, 1923, but deliberate impoundment had begun Oct. 1, 1922. Enlargement of the dam was completed in November 1973. The 3,000-foot-wide uncontrolled spillway is located approximately 600 ft to right and slightly upstream from right end dam. The controlled outlet works near center of dam consist of two hydraulically operated slide gates 5 ft 8-in by 13 ft with a 13-foot-diameter conduit and spillway basin. The dam and lake are owned by the city of Wichita Falls and the Wichita County Water Improvement District No. 2. Water is used for irrigation in the Wichita River Valley, oilfield operation, municipal, and industrial uses. The capacity table is based on a resurvey made in 1973. Data collection platform at station. Figures given herein represents total contents. Data regarding the dam and lake are given in the following table.

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	1,183.0	-
Crest of spillway..	1,160.0	603,000
Top of flood-control pool......................................	1,156.0	502,900
Top of conservation pool.......................................	1,144.0	268,000
Lowest gated outlet (invert)...................................	1,090.0	1,400

COOPERATION.--Capacity table No. 4-C was provided by the U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 420,900 acre-ft June 30, 1941 (elevation, 1,152.0 ft), present datum; minimum since first appreciable storage, 26,160 acre-ft June 30, 1953 (elevation, 1,108.0 ft), present datum.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 326,200 acre-ft Sept. 12 at 0300 hours (elevation, 1,147.48 ft); minimum, 204,500 acre-ft Oct. 9 (elevation, 1,139.50 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

1,138.0	186,700	1,144.0	268,000
1,140.0	210,900	1,146.0	300,500
1,142.0	238,200	1,148.0	335,600

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	207200	250400	251000	251200	248800	247900	243700	240100	251900	273600	271300	277700
2	207100	250300	250000	250900	248300	247900	244000	239700	253700	274700	270200	279100
3	206800	250300	250000	250900	248500	247900	244100	238900	253600	277000	269900	280600
4	206300	250600	250400	251000	247700	247900	243200	238700	259900	278900	268800	291600
5	205800	250900	250900	251000	248500	247900	243200	238100	269100	281700	267800	307500
6	205100	250100	250900	250600	247700	247900	243100	237800	273100	284400	267100	316300
7	205100	250100	251300	250100	247600	247900	242900	237500	273700	286500	266300	321100
8	204800	250400	251000	250100	247100	247900	241900	237200	274000	286500	265400	323700
9	204800	251200	251000	250600	246900	248200	241400	238100	274000	286400	264800	324300
10	205100	249800	250300	250300	247300	247900	240900	238800	274200	286100	264600	325700
11	205400	249800	250300	251000	246900	247400	240800	238800	274000	286200	263900	325700
12	206200	250000	250900	250600	246900	246600	240400	239200	274000	286100	263100	325000
13	206700	250600	250600	251200	248300	246100	241200	239400	273700	285100	262400	322700
14	208500	251000	250400	251200	247400	246000	239500	238700	273600	284500	261600	322000
15	212100	250400	250400	251200	248000	245300	238900	239400	274000	284000	261100	321100
16	214500	250900	250700	251200	248200	244700	238200	239900	275000	283300	261000	318600
17	217700	251300	250700	251200	248500	245500	238700	242900	275100	282700	260400	313900
18	226700	251300	250600	251200	248500	245700	237800	245100	275800	282300	259900	308000
19	234400	250900	250600	251200	248600	245400	239200	246900	276100	281800	259500	302000
20	242900	250600	250700	251900	248000	245100	239200	247300	275900	281200	258900	296300
21	247400	250600	250900	251900	248000	245100	238900	247600	275900	280100	258300	290500
22	248600	250600	251000	251900	247700	245700	238700	247300	276100	279700	257600	285900
23	249500	250400	251300	250600	247900	245500	238500	247400	275800	279100	257000	282800
24	250000	250400	250600	250600	247900	244700	238400	248000	275900	278300	256400	280600
25	250100	251500	250600	250100	248300	244700	237900	248600	275900	277700	255800	279600
26	250600	251300	250600	248900	247900	245100	238400	249800	275300	277000	255400	279600
27	250900	251000	250600	249100	247900	245000	240200	250100	275100	276100	255100	279400
28	250900	250400	250900	248600	247700	245100	239700	250100	275100	275100	255200	279700
29	250600	250700	250900	248500	---	245100	239700	250100	274700	274300	254800	280200
30	250300	251300	250700	248900	---	245100	240400	250100	273700	273200	254200	281800
31	250300	---	250700	248900	---	244500	---	250100	---	271800	271600	---
MAX	250900	251500	251300	251900	248800	248200	244100	250100	276100	286500	271600	325700
MIN	204800	249800	250000	248500	246900	244500	237800	237200	251900	271800	254200	277700
(†)	1142.83	1142.90	1142.86	1142.74	1142.66	1142.35	1142.15	1142.82	1144.36	1144.24	1144.23	1144.87
(ϕ)	+43500	+1000	-600	-1800	-1200	-3200	-4100	+9700	+23600	-1900	-200	+10200

CAL YR 1985 MAX 273700 MIN 204800 (ϕ) +40200
WTR YR 1986 MAX 325700 MIN 204800 (ϕ) +75000

(†) Elevation, in feet, at end of month.
(ϕ) Change in contents, in acre-feet.

07312100 WICHITA RIVER NEAR MABELLE, TX

LOCATION.--Lat 33°45'36", long 99°08'33", Baylor County, Hydrologic Unit 11130206, near left bank at downstream side of bridge on U.S. Highways 183 and 283, 0.3 mi downstream from Lake Kemp Dam, 6.2 mi north of Mabelle, and 13 mi northeast of Seymour.

DRAINAGE AREA.--2,086 mi², all of which is above Lake Kemp Dam.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1952-58 (occasional discharge measurements), October 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,062.72 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow is regulated by Lake Kemp (see station 07312000). Water is released from Lake Kemp to supply Lake Diversion. Water from Lake Diversion is released for mining, recreation, and irrigation in the vicinity of Wichita Falls.

AVERAGE DISCHARGE.--27 years, 137 ft³/s (99,260 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,290 ft³/s Mar. 24, 1976 (gage height, 10.47 ft); minimum daily, 0.15 ft³/s June 22, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,000 ft³/s Sept. 18 at 2130 hours (gage height, 9.51 ft); minimum daily, 0.49 ft³/s Dec. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	130	.60	.65	.67	114	.99	103	107	11	114	268	18
2	130	.53	.56	.67	114	1.1	102	106	3.0	119	265	1.4
3	130	.53	.54	.67	114	1.2	102	106	2.8	119	270	2.1
4	130	.60	.63	.67	116	1.1	104	104	15	117	258	42
5	130	.53	.60	.67	116	1.1	104	104	12	116	265	35
6	130	.53	.60	.67	116	1.0	104	106	3.1	115	269	2.5
7	130	.53	.60	.67	116	1.2	103	106	2.4	117	256	2.4
8	56	.53	.63	.67	116	1.1	105	106	2.2	117	249	1.8
9	41	.53	.67	.67	50	.91	104	43	1.7	116	260	1.7
10	119	.53	.71	.67	1.0	6.5	104	3.4	1.7	115	263	1.6
11	119	.53	.62	.67	1.0	98	104	2.1	1.9	117	259	1.6
12	119	.53	.53	.67	1.0	98	104	2.0	1.6	115	263	721
13	119	.53	.52	.67	.75	99	104	2.1	1.4	117	262	1490
14	48	.60	.55	.75	.75	132	105	2.2	1.3	116	267	1490
15	.60	.53	.51	.75	.75	210	104	67	1.2	118	158	1490
16	.53	.53	.49	.75	.75	210	104	107	1.5	117	113	1660
17	.67	.53	.54	.75	.75	214	103	111	1.3	118	113	2440
18	.84	.60	.60	.75	.84	78	103	115	1.3	118	113	2980
19	.75	.60	.60	.75	.84	2.1	75	42	1.4	119	113	2980
20	.67	.60	.57	.75	1.2	1.7	1.9	2.0	1.4	119	113	2960
21	.67	.60	.60	61	1.2	1.5	1.6	1.8	1.4	209	113	2940
22	.60	.60	.55	113	1.0	1.1	1.5	1.6	1.4	261	113	2520
23	.60	.53	.62	113	.96	.96	1.3	1.7	1.5	262	113	1700
24	.60	.53	.60	113	1.0	.99	57	1.8	1.5	262	112	1510
25	.60	.53	.59	113	.96	.93	104	1.9	1.5	263	110	446
26	.53	.67	.58	113	1.0	1.1	104	2.9	1.5	264	109	6.6
27	.53	.65	.77	113	1.3	1.1	105	2.2	1.5	264	110	4.5
28	.53	.63	.61	114	1.1	1.0	106	1.9	2.0	265	111	3.3
29	.53	.65	.61	114	---	.95	105	2.1	71	267	109	2.7
30	.53	.68	.61	114	---	1.0	106	2.2	114	267	109	3.2
31	.60	---	.61	114	---	36	---	2.2	---	267	246	---
TOTAL	1541.38	17.09	18.47	1208.96	990.15	1205.63	2634.3	1366.1	266.5	5190	5752	27457.4
MEAN	49.7	.57	.60	39.0	35.4	38.9	87.8	44.1	8.88	167	186	915
MAX	130	.68	.77	114	116	214	106	115	114	267	270	2980
MIN	.53	.53	.49	.67	.75	.91	1.3	1.6	1.2	114	109	1.4
AC-FT	3060	34	37	2400	1960	2390	5230	2710	529	10290	11410	54460

CAL YR 1985 TOTAL 33152.22 MEAN 90.8 MAX 542 MIN .49 AC-FT 65760
WTR YR 1986 TOTAL 47647.98 MEAN 131 MAX 2980 MIN .49 AC-FT 94510

07312100 WICHITA RIVER NEAR MABELLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: December 1965 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1968 to current year.
WATER TEMPERATURES: October 1968 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 7,110 microsiemens May 13, 14, 1980; minimum daily, 561 microsiemens May 28, 1975.
WATER TEMPERATURES: Maximum daily, 32.0°C Sept. 4, 1972, June 26, July 5, 1975; minimum daily, 0.0°C Dec. 20, 1973, and Feb. 9, 17, 1980.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 6,590 microsiemens May 16; minimum daily, 1,170 microsiemens Sept. 5.
WATER TEMPERATURES: Maximum daily, 28.0°C on many days during July and August ; minimum daily, 4.0°C Dec. 1.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
JAN									
08...	1012	0.64	5900	--	5.5	1200	980	300	100
FEB									
03...	0800	111	6170	--	10.0	1100	960	290	80
MAR									
31...	0830	1.2	5950	--	16.5	930	760	240	80
MAY									
09...	0800	51	6580	7.90	20.0	1100	960	290	80
JUN									
06...	0800	116	3340	8.00	20.0	610	460	160	50
AUG									
04...	1030	268	6200	--	27.0	940	850	260	70

DATE	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
JAN									
08...	910	12	6.3	180	780	1500	0.4	11	3700
FEB									
03...	970	13	8.5	96	850	1500	0.4	7.1	3800
MAR									
31...	880	13	6.2	167	720	1400	0.3	10	3400
MAY									
09...	1000	14	8.8	98	910	1700	0.3	5.3	4100
JUN									
06...	470	9	7.0	146	410	780	0.3	11	2000
AUG									
04...	980	14	8.7	86	820	1600	0.4	6.4	3800

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	1541.38	6480	4050	16900	1700	7010	880	3640	1100
NOV. 1985	17.09	5920	3670	169	1500	69	800	37	1000
DEC. 1985	18.47	5950	3690	184	1500	75	800	40	1000
JAN. 1986	1208.96	6140	3820	12500	1600	5140	830	2700	1100
FEB. 1986	990.15	6130	3820	10200	1600	4200	830	2210	1100
MAR. 1986	1205.63	6360	3970	12900	1600	5360	860	2790	1100
APR. 1986	2634.3	6460	4040	28700	1700	11900	870	6200	1100
MAY 1986	1366.1	6330	3950	14600	1600	6040	850	3150	1100
JUNE 1986	266.5	5830	3620	2600	1500	1070	790	566	1000
JULY 1985	5190	6170	3840	53800	1600	22200	830	11700	1100
AUG. 1986	5752	6230	3880	60300	1600	24900	840	13100	1100
SEPT 1986	27457.4	5620	3470	257000	1400	104600	760	56200	990
TOTAL	47647.98	**	**	470000	**	193000	**	102000	**
WTD.AVG.	131	5890	3660	**	1500	**	790	**	1000

07312100 WICHITA RIVER NEAR MABELLE, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6460	5870	5920	5900	6170	6040	6420	6520	5080	6160	6300	3370
2	6460	5900	5950	5890	6160	6030	6420	6550	5040	6120	6300	4950
3	6490	5920	6030	5930	6170	6060	6420	6530	5030	6100	6250	1860
4	6480	5900	5890	5940	6190	6000	6430	6550	3340	6180	6230	1280
5	6500	5940	5960	5930	6170	5940	6440	6550	3340	6170	6240	1170
6	6500	6000	5970	5920	6190	6180	6450	6560	3340	6140	6240	3990
7	6500	5940	5910	5930	6180	6140	6440	6560	5890	6170	6240	5360
8	6340	6000	5930	5900	5940	5920	6450	6570	5850	6180	6240	6040
9	6200	5910	5930	5920	5970	5890	6470	6580	5840	6170	6260	6020
10	6510	5930	5960	5890	5980	5970	6470	5930	5780	6170	6260	5900
11	6520	5920	5920	5910	5960	6340	6470	5920	5890	6170	6260	6050
12	6520	5940	5900	5910	5950	6340	6470	5890	5970	6170	6270	6150
13	6520	5890	5950	5910	6000	6330	6490	5930	6030	6170	6260	5740
14	6520	5900	5950	5900	5940	6370	6480	5920	6100	6170	6280	5820
15	6150	5900	5930	5920	5930	6400	6490	6560	6110	6140	6270	5680
16	6270	5900	5990	5920	5900	6380	6500	6590	6110	6160	6270	5700
17	6190	5890	5960	5920	5930	6360	6500	5500	5800	6160	6260	5670
18	6150	5890	5980	5920	5940	6340	6510	5500	5940	6150	6270	5570
19	6130	5910	5970	5920	5950	6090	5950	5520	5940	6140	6280	5660
20	6180	5940	5950	5910	5940	6120	5920	6070	5960	6160	6270	5580
21	6120	6010	5970	6130	5980	6000	5910	6080	6010	6160	6280	5560
22	6440	5880	5960	6130	5970	6010	5950	6180	6310	6150	6300	5560
23	5980	5900	5960	6150	5960	5940	6000	5980	6300	6150	6320	5530
24	5920	5900	5950	6140	5970	5950	5960	5870	6280	6160	6320	5530
25	5930	5900	5970	6150	6000	5950	6560	5830	6320	6190	6320	5520
26	5870	5890	5930	6140	5950	6420	6560	5850	6340	6190	6320	5760
27	5890	5900	5960	6150	6010	6430	6560	5840	6140	6200	6310	5790
28	5880	5900	5960	6150	6020	6410	6560	6000	6170	6200	6320	5860
29	5920	5910	5950	6150	---	6420	6560	6030	6340	6200	6330	5740
30	6000	5900	5920	6140	---	6440	6580	5990	6220	6200	6340	5680
31	5960	---	5930	6140	---	6410	---	5070	---	6200	5320	---
MEAN	6240	5920	5950	6000	6020	6180	6380	6100	5690	6170	6250	5140

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	14.0	4.0	9.0	8.0	10.0	12.0	17.0	20.0	26.0	28.0	22.0
2	19.0	14.0	5.0	9.0	10.0	10.0	12.0	20.0	20.0	25.0	28.0	22.0
3	19.0	14.0	5.0	9.0	10.0	10.0	16.0	20.0	20.0	25.0	28.0	23.0
4	19.0	14.0	10.0	8.0	10.0	10.0	15.0	20.0	20.0	26.0	28.0	22.0
5	19.0	14.0	10.0	9.0	10.0	10.0	17.0	20.0	20.0	26.0	28.0	22.0
6	19.0	14.0	10.0	9.0	10.0	10.0	17.0	20.0	20.0	26.0	28.0	23.0
7	19.0	14.0	13.0	8.0	9.0	11.0	17.0	20.0	20.0	26.0	28.0	21.0
8	19.0	14.0	13.0	5.0	7.0	11.0	17.0	20.0	20.0	26.0	28.0	19.0
9	19.0	14.0	---	6.0	7.0	11.0	15.0	20.0	20.0	26.0	28.0	20.0
10	19.0	12.0	---	9.0	5.0	11.0	13.0	20.0	20.0	26.0	28.0	21.0
11	19.0	12.0	7.0	9.0	5.0	11.0	17.0	20.0	20.0	26.0	28.0	22.0
12	19.0	12.0	8.0	9.0	5.0	11.0	17.0	18.0	20.0	26.0	28.0	21.0
13	19.0	12.0	7.0	9.0	6.0	11.0	17.0	18.0	22.0	26.0	28.0	24.0
14	19.0	12.0	8.0	9.0	9.0	12.0	17.0	18.0	22.0	26.0	26.0	24.0
15	16.0	14.0	8.0	9.0	9.0	13.0	17.0	18.0	22.0	26.0	26.0	24.0
16	16.0	14.0	8.0	10.0	10.0	13.0	17.0	22.0	22.0	26.0	27.0	25.0
17	19.0	14.0	8.0	10.0	10.0	13.0	17.0	20.0	21.0	26.0	26.0	23.0
18	18.0	14.0	8.0	10.0	11.0	12.0	17.0	20.0	22.0	26.0	27.0	25.0
19	19.0	14.0	7.0	10.0	11.0	11.0	17.0	20.0	22.0	27.0	28.0	25.0
20	19.0	12.0	7.0	10.0	13.0	11.0	17.0	20.0	22.0	28.0	26.0	25.0
21	19.0	11.0	7.0	8.0	13.0	11.0	17.0	20.0	22.0	28.0	26.0	25.0
22	19.0	11.0	7.0	8.0	12.0	11.0	17.0	20.0	22.0	28.0	27.0	25.0
23	19.0	15.0	8.0	7.0	13.0	11.0	17.0	20.0	22.0	28.0	27.0	25.0
24	19.0	17.0	7.0	8.0	13.0	11.0	17.0	20.0	22.0	28.0	27.0	25.0
25	19.0	17.0	6.0	8.0	13.0	13.0	17.0	20.0	22.0	28.0	27.0	25.0
26	19.0	19.0	6.0	7.0	13.0	11.0	17.0	20.0	22.0	28.0	26.0	23.0
27	19.0	14.0	8.0	6.0	13.0	11.0	17.0	20.0	22.0	28.0	26.0	23.0
28	19.0	15.0	8.0	7.0	10.0	13.0	17.0	18.0	22.0	28.0	26.0	23.0
29	16.0	14.0	8.0	7.0	---	14.0	17.0	20.0	23.0	28.0	25.0	24.0
30	16.0	8.0	8.0	7.0	---	14.0	17.0	20.0	25.0	28.0	27.0	23.0
31	14.0	---	8.0	7.0	---	14.0	---	20.0	---	28.0	25.0	---
MEAN	18.5	13.5	8.0	8.5	10.0	11.5	16.5	19.5	21.5	26.5	27.0	23.0

07312110 SOUTH SIDE CANAL NEAR DUNDEE, TX

LOCATION.--Lat 33°48'50", long 98°55'57", Archer County, Hydrologic Unit 11130206, on left bank 125 ft downstream from Lake Diversion headgates and 5.3 mi northwest of Dundee.

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,039.70 ft above National Geodetic Vertical Datum of 1929 (Wichita County Water Improvement District bench mark).

REMARKS.--Estimated daily discharge; July 18 to Aug. 6, Sept. 28-30. Records good except for periods of estimated daily discharge, which are poor. Water diverted from Lake Diversion is used for mining, industrial, recreation, and irrigation. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years, 80.5 ft^3/s (58,300 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 374 ft^3/s July 22, 1974; maximum gage height, 8.66 ft July 23, 1978; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 180 ft^3/s Aug. 8; maximum gage height, 6.43 ft Aug. 8; minimum daily discharge, 0.01 ft^3/s Jan. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	.22	.19	.03	104	.02	100	65	30	104	170	12
2	47	.22	.18	.03	104	.04	101	54	29	112	170	7.8
3	47	.22	.16	9.3	105	.04	95	55	28	118	170	6.7
4	46	.22	.16	14	104	.04	71	55	28	119	169	6.9
5	46	.22	.14	14	97	.05	71	55	30	119	169	33
6	47	.22	.13	10	77	.05	72	55	29	117	173	65
7	47	.22	.13	.04	54	.05	71	56	29	117	177	64
8	47	.22	.11	.03	1.2	.05	76	56	28	117	180	32
9	47	.22	.11	.03	.09	.05	84	55	28	117	171	3.9
10	46	.22	.11	.02	.09	.05	84	55	29	117	173	3.5
11	46	.22	10	.02	.08	.05	85	54	32	131	168	3.2
12	45	.22	7.0	.01	.06	.06	85	54	43	143	161	3.0
13	46	.25	.13	.01	.05	.07	86	69	44	143	162	2.9
14	25	.35	.08	.02	.04	.07	85	91	44	142	162	3.1
15	1.4	.35	.07	.02	.03	18	85	98	46	142	162	3.3
16	.25	.35	.07	.02	.03	57	85	99	47	142	161	3.3
17	.25	.35	.05	.02	.03	84	95	80	45	152	161	24
18	.30	.35	.05	12	.03	86	94	34	46	173	161	76
19	.30	.30	2.2	45	.03	77	58	32	45	171	160	80
20	.30	.22	3.2	70	.03	78	2.2	33	45	170	160	81
21	.25	.22	5.2	79	.03	78	1.9	33	45	170	158	81
22	.25	.22	.14	78	.03	78	2.0	32	45	168	157	81
23	.25	.22	.12	77	.02	79	15	30	45	169	157	80
24	.22	.22	.08	77	.02	82	49	31	45	170	155	78
25	.22	.22	.07	76	.02	91	58	31	45	170	153	76
26	.22	.22	.05	76	.02	89	59	46	44	171	152	74
27	.22	.22	.04	82	.02	88	57	40	44	170	150	72
28	.22	.22	.04	95	.02	95	68	29	65	170	143	92
29	.22	.22	.04	104	---	102	77	29	90	171	135	103
30	.22	.22	.03	102	---	102	77	29	103	171	135	103
31	.22	---	.03	102	---	102	---	29	---	170	112	---
TOTAL	655.31	7.36	30.11	1122.60	646.97	1386.69	2049.1	1564	1296	4536	4947	1354.6
MEAN	21.1	.25	.97	36.2	23.1	44.7	68.3	50.5	43.2	146	160	45.2
MAX	68	.35	10	104	105	102	101	99	103	173	180	103
MIN	.22	.22	.03	.01	.02	.02	1.9	29	28	104	112	2.9
AC-FT	1300	15	60	2230	1280	2750	4060	3100	2570	9000	9810	2690

CAL YR 1985 TOTAL 21241.18 MEAN 58.2 MAX 237 MIN .00 AC-FT 42130
WTR YR 1986 TOTAL 19595.74 MEAN 53.7 MAX 180 MIN .01 AC-FT 38870

07312200 BEAVER CREEK NEAR ELECTRA, TX

LOCATION.--Lat 33°54'21", long 98°54'17", Wichita County, Hydrologic Unit 11130207, near right bank at downstream side of bridge on Farm Road 2326, 6.5 mi northwest of Kamay, 8 mi upstream from Wichita River, and 9 mi south of Electra.

DRAINAGE AREA.--652 mi².

PERIOD OF RECORD.--February 1960 to current year.
Water-quality records.--Chemical analyses: October 1968 to June 1970. Water temperatures: October 1968 to June 1970. Sediment records: April 1966 to September 1975.

GAGE.--Water-stage recorder. Datum of gage is 991.3 ft above National Geodetic Vertical Datum of 1929 (State Department of Highways and Public Transportation reference point).

REMARKS.--Estimated daily discharges: Oct. 1-7, Jan. 14, Feb. 2-5, June 17-30, and Sept. 17-16. Records fair. Some regulation by Santa Rosa Lake, capacity 11,570 acre-ft, about 30 mi upstream. There are several small diversions above station.

AVERAGE DISCHARGE.--26 years, 60.3 ft³/s (1.26 in/yr), 43,700 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft³/s Mar. 17, 1961 (gage height, 33.57 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1925, 36.0 ft, probably occurred Oct. 2, 1941 (partly caused by breaching of Santa Rosa Dam to avoid its failure), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 18	2200	3,170	26.29	Sept. 6	0530	*7,440	*33.24
June 17	0600	1,530	23.24	Sept. 16	0100	1,520	22.87
Sept. 2	0100	1,690	23.11				

Minimum discharge, 0.20 ft³/s Aug. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157	33	6.9	4.3	4.2	3.5	1.0	33	1.8	8.2	.29	1290
2	37	29	6.5	4.2	3.4	3.9	2.4	9.2	2.2	4.8	.24	1300
3	11	24	7.4	4.2	1.3	4.2	14	6.7	2.2	19	.21	261
4	6.4	20	6.5	4.2	1.2	7.6	4.6	5.4	30	8.6	38	637
5	4.9	18	6.2	4.1	1.9	8.0	1.8	5.2	434	6.1	27	4500
6	4.2	16	6.1	4.2	41	8.1	1.1	5.9	290	5.9	8.9	6960
7	3.5	15	6.0	4.3	29	4.3	.94	9.4	36	5.4	4.4	4690
8	3.1	13	5.7	3.8	15	2.9	.81	2.0	12	5.9	2.2	3220
9	2.3	11	5.8	4.1	13	2.4	.80	1.3	5.6	4.6	.94	2210
10	8.6	11	5.9	4.2	9.8	1.8	1.0	37	84	3.1	.68	1470
11	34	11	5.6	4.3	9.0	1.5	1.1	34	143	5.8	.70	899
12	17	8.5	5.7	4.3	8.7	1.4	1.2	11	9.7	32	2.8	496
13	54	7.9	6.1	4.2	8.6	1.5	.93	6.5	6.2	7.3	2.4	234
14	124	8.1	5.9	3.6	8.7	3.4	.81	5.3	4.1	4.5	1.3	170
15	211	9.4	5.2	4.5	8.6	6.1	.72	6.7	298	3.0	.79	818
16	79	16	5.9	4.3	8.6	6.2	.68	5.3	290	2.1	.59	1270
17	44	11	5.3	4.5	8.6	9.1	1.2	94	1060	1.2	.77	771
18	2010	9.0	5.1	4.3	8.4	57	2.0	550	192	.83	.76	525
19	2780	8.8	5.1	4.2	8.3	28	30	229	107	3.1	2.0	387
20	957	8.5	5.1	4.0	8.1	10	31	28	100	3.8	2.5	252
21	255	8.0	5.0	4.0	7.8	7.8	14	11	21	3.9	2.3	171
22	204	7.5	5.0	3.9	7.7	5.4	6.6	7.6	13	3.9	2.6	128
23	423	7.5	4.9	3.8	8.0	3.7	5.3	2.6	7.6	9.3	3.0	99
24	537	7.0	4.8	3.9	8.1	2.8	3.8	2.0	6.5	4.1	2.9	79
25	423	7.0	4.6	4.0	8.0	2.3	1.5	1.9	5.5	3.3	2.8	68
26	279	7.4	4.5	3.8	8.0	1.9	1.1	11	4.8	3.2	3.5	57
27	188	7.3	4.6	3.8	8.0	1.8	287	132	4.4	1.7	23	49
28	106	6.1	1.5	3.9	6.8	1.6	188	43	4.3	1.4	48	44
29	76	6.3	4.5	4.1	---	1.3	23	9.6	24	.96	7.8	40
30	56	6.8	4.6	4.0	---	1.0	15	3.0	23	.56	4.9	130
31	41	---	4.5	4.1	---	1.0	---	1.7	---	.37	81	---
TOTAL	9136.0	359.1	169.5	127.1	267.8	201.5	643.39	1310.3	3221.9	167.92	279.27	33225
MEAN	295	12.0	5.47	4.10	9.56	6.50	21.4	42.3	107	5.42	9.01	1108
MAX	2780	33	7.4	4.5	41	57	287	550	1060	32	81	6960
MIN	2.3	6.1	4.5	3.6	1.2	1.0	.68	1.3	1.8	.37	.21	40
CFSM	.45	.02	.01	.01	.01	.01	.03	.06	.16	.01	.01	1.70
IN.	.52	.02	.01	.01	.02	.01	.04	.07	.18	.01	.02	1.90
AC-FT	18120	712	336	252	531	400	1280	2600	6390	333	554	65900

CAL YR 1985 TOTAL 34051.08 MEAN 93.3 MAX 4200 MIN .04 CFSM .14 IN. 1.94 AC-FT 67540
WTR YR 1986 TOTAL 49108.78 MEAN 135 MAX 6960 MIN .21 CFSM .21 IN. 2.80 AC-FT 97410

07312500 WICHITA RIVER AT WICHITA FALLS, TX

LOCATION.--Lat 33°54'34", long 98°32'00", Wichita County, Hydrologic Unit 11130206, near center of stream at downstream side of bridge on Beverly Drive in Wichita Falls, 4 mi upstream from Fort Worth and Denver Railway Co. bridge, 8.4 mi upstream from Holliday Creek, and 55.3 mi upstream from mouth.

DRAINAGE AREA.--3,140 mi², of which 2,086 mi² is above Lake Kemp Dam.

PERIOD OF RECORD.--February 1900 to January 1902 (monthly discharge only, published in WSP 1311), October 1910 to December 1911 (gage heights only), March 1938 to current year.

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 924.26 ft above National Geodetic Vertical Datum of 1929. February 1900 to February 1902 and Oct. 1, 1910, to Dec. 31, 1911, nonrecording gages at site 4 mi downstream at different datum. Mar. 30, 1938, to Dec. 1, 1959, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow from 2,086 mi² is regulated by Lake Kemp (capacity 603,000 acre-ft) 71 mi upstream. Since completion of Lake Kemp in 1923, no outflow has been permitted to pass over spillway. Water is diverted from Lake Diversion (capacity 40,000 acre-ft), 41 mi upstream for the irrigation of 42,000 acres under permit in the vicinity of Wichita Falls. During the water year, Wichita County Water Improvement District No. 2 diverted 38,900 acre-ft from Lake Diversion for mining, industrial use, recreation, and irrigation. Gage-height telemeter at station via Sutron Data Collection Platform.

AVERAGE DISCHARGE.--49 years (water years 1901, 1939-86), 262 ft³/s (189,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,800 ft³/s Oct. 3, 1941 (gage height, 24.0 ft); no flow Oct. 11, 1960 (construction of cofferdam upstream).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 50,000 ft³/s June 8, 1915, computed by Vernon L. Sullivan, engineer for Big Wichita River Irrigation Co.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,920 ft³/s Sept. 9 at 0500 hours (gage height, 19.80 ft); minimum, 21 ft³/s Mar. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	224	73	40	28	43	25	49	292	48	69	48	278
2	154	66	36	28	42	26	74	184	56	70	49	882
3	92	60	33	28	44	24	64	99	55	56	50	1520
4	61	53	33	28	45	23	99	64	57	54	57	2060
5	51	50	32	28	44	23	73	53	96	67	62	3430
6	50	48	31	28	54	24	47	48	394	74	86	3710
7	47	45	31	29	60	25	40	52	459	56	77	4190
8	45	43	31	29	63	25	36	59	243	51	77	5580
9	45	44	31	30	49	25	33	51	186	53	76	5810
10	48	40	31	31	41	23	33	50	520	51	73	5040
11	56	39	31	32	35	28	33	58	2130	50	69	3840
12	64	40	31	33	31	33	34	74	741	55	64	2550
13	97	41	31	34	29	27	35	55	172	65	53	833
14	173	41	30	34	30	25	34	49	109	68	55	436
15	134	50	30	35	29	28	29	46	285	63	60	468
16	212	48	30	35	29	25	26	50	693	57	66	1240
17	142	43	30	37	29	26	28	74	712	54	68	1890
18	268	44	29	37	28	59	29	361	1270	58	58	2120
19	994	41	29	36	28	135	67	706	516	58	50	2190
20	1680	37	29	34	28	118	155	367	213	62	54	2350
21	1430	38	29	47	26	77	120	103	179	59	53	2540
22	244	40	28	57	26	53	74	71	116	72	55	2660
23	180	37	28	36	26	47	45	57	88	67	53	2670
24	328	35	29	37	25	48	33	51	74	74	53	2730
25	422	35	29	37	26	42	27	51	66	71	56	2680
26	376	36	29	38	26	42	24	55	59	66	56	2440
27	244	34	29	40	25	43	34	117	56	61	62	1910
28	175	32	29	39	24	36	113	141	55	53	63	1220
29	135	31	29	41	---	50	229	102	53	58	88	612
30	112	36	30	45	---	60	108	64	59	55	67	258
31	88	---	29	41	---	37	---	53	---	50	60	---
TOTAL	8371	1300	947	1092	985	1282	1827	3657	9760	1879	1918	70137
MEAN	270	43.3	30.5	35.2	35.2	41.4	60.9	118	325	60.6	61.9	2338
MAX	1680	73	40	57	63	135	229	706	2130	74	88	5810
MIN	45	31	28	28	24	23	24	46	48	50	48	258
AC-FT	16600	2580	1880	2170	1950	2540	3620	7250	19360	3730	3800	139100

CAL YR 1985 TOTAL 92160 MEAN 252 MAX 5480 MIN 28 AC-FT 182800
WTR YR 1986 TOTAL 103155 MEAN 283 MAX 5810 MIN 23 AC-FT 204600

07312500 WICHITA RIVER AT WICHITA FALLS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: April 1966 to July 1975. Chemical and biochemical analyses: November 1981 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1981 to current year.
WATER TEMPERATURES: October 1981 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD
SPECIFIC CONDUCTANCE: Maximum daily, 9,490 microsiemens Mar. 2, 1984; minimum daily, 245 microsiemens Oct. 24, 1983.
WATER TEMPERATURES: Maximum daily, 35.0°C July 21, 1982, July 4, 1983, and June 15, 16, 1984; minimum daily, 0.0°C Dec. 21, 30, 1983 and Feb. 2, 1985.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 7,550 microsiemens Feb. 26 minimum daily, 466 microsiemens Oct. 20.
WATER TEMPERATURES: Maximum daily, 33.0°C Aug. 6, 19; minimum daily, 2.0°C Dec. 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)
OCT									
02...	1340	221	2280	--	15.0	--	--	--	370
NOV									
13...	0815	40	5100	8.10	13.5	12.0	123	2.6	1000
JAN									
16...	1330	35	6730	7.90	10.5	12.7	122	1.5	1400
MAR									
18...	1645	76	7620	7.80	19.5	13.5	160	3.8	1400
MAY									
06...	1645	42	5350	8.00	29.5	12.6	--	7.7	940
JUL									
24...	0800	67	6510	7.70	28.0	7.4	--	2.8	1000
AUG									
27...	1545	63	6430	8.30	27.5	9.1	--	3.6	1200

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT									
02...	290	93	33	340	8	4.6	75	190	560
NOV									
13...	820	250	100	790	11	5.8	219	480	1300
JAN									
16...	1200	360	130	920	11	5.7	230	480	1900
MAR									
18...	1300	350	130	1100	13	8.1	159	960	2000
MAY									
06...	800	230	90	800	12	7.4	146	590	1400
JUL									
24...	900	240	100	920	13	8.3	110	690	1600
AUG									
27...	1000	300	100	1000	13	9.1	123	770	1700

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT									
02...	0.3	5.1	1300	--	--	--	--	--	--
NOV									
13...	0.3	7.1	3100	<0.01	<0.10	0.35	0.55	0.9	0.14
JAN									
16...	0.3	3.8	3900	<0.01	<0.10	0.10	0.3	0.4	0.08
MAR									
18...	0.4	2.7	4600	<0.01	<0.10	0.09	0.71	0.8	0.13
MAY									
06...	0.3	4.8	3200	<0.01	<0.10	0.04	0.96	1.0	0.21
JUL									
24...	0.4	7.4	3600	<0.01	<0.10	0.15	0.85	1.0	0.08
AUG									
27...	0.4	7.1	4000	0.01	<0.10	0.12	0.68	0.8	0.15

07312500 WICHITA RIVER AT WICHITA FALLS, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	8371	1490	863	19500	370	8370	150	3340	270
NOV. 1985	1300	4680	2790	9790	1200	4280	490	1730	870
DEC. 1985	947	6560	4000	10200	1800	4540	720	1850	1300
JAN. 1986	1092	6620	4040	11900	1800	5290	730	2160	1300
FEB. 1986	985	6290	3820	10200	1700	4510	690	1840	1200
MAR. 1986	1282	6330	3850	13300	1700	5910	700	2410	1200
APR. 1986	1827	5080	3050	15000	1300	6620	540	2690	960
MAY 1986	3657	2970	1740	17100	750	7430	300	2980	540
JUNE 1986	9760	2010	1160	30500	500	13100	200	5220	360
JULY 1986	1879	6180	3750	19000	1700	8410	670	3420	1200
AUG. 1986	1918	6570	4010	20700	1800	9210	730	3750	1300
SEPT 1986	70137	2400	1390	263000	600	113400	240	45400	440
TOTAL	103155	**	**	441000	**	191000	**	76800	**
WTD.AVG.	283	2700	1580	**	690	**	280	**	500

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3720	2590	6250	6520	6560	6930	7300	1550	4420	5950	7040	4970
2	2400	2800	6340	6570	6580	6950	5740	2240	5080	4630	6930	3740
3	3110	3010	6630	6560	6510	6910	4880	2610	4600	5090	6880	3460
4	4230	3330	6730	6520	6480	6830	5250	3800	5720	5640	6740	1880
5	4800	3540	6360	6580	6050	6840	6240	4700	4010	5600	6630	1410
6	5430	3820	6540	6600	5720	6990	6570	5210	1780	5990	6900	906
7	5810	4000	6500	6630	5640	7120	6560	5600	1890	5950	6880	1150
8	5980	4220	6340	6640	5480	7270	6500	5770	4640	6080	6040	1360
9	5140	4350	6430	6640	5020	7160	6710	6010	4940	6270	6410	1190
10	6180	4620	6340	6660	5200	6980	6760	5460	3220	6360	6220	1200
11	6100	4730	6500	6670	5720	6860	6890	5880	1150	6410	6310	1430
12	6210	4930	6460	6680	5830	6870	6950	5390	1350	6350	6380	1650
13	5710	5090	6530	6700	5930	6680	7040	5610	2560	6550	6500	1590
14	3740	5300	6570	6680	6260	6880	7230	6000	3650	6400	6590	2160
15	3900	4920	6580	6660	6690	6800	7080	5700	2730	5920	6710	2810
16	2770	5050	6580	6700	6770	7000	7250	6090	1650	6170	6520	2200
17	2070	5390	6610	6690	6890	7100	7300	5150	1590	6500	6410	1660
18	1790	4790	6590	6630	7030	6330	7310	2400	763	6630	6520	2070
19	654	5170	6640	6680	6800	5290	5810	1430	1420	6730	6630	2620
20	466	4970	6630	6650	6720	5530	4750	1490	2180	6430	6810	2920
21	613	5570	6600	6620	6700	4700	3190	1890	2970	6520	6770	3210
22	1660	5460	6720	6360	6690	5060	3320	2570	3360	6280	6910	3620
23	2020	5950	6700	6590	6920	5510	4410	3550	3590	6170	6780	4040
24	1000	6030	6680	6630	7070	6180	5600	4420	4140	6300	6700	4430
25	874	5910	6650	6660	7420	6600	5660	4620	4460	6130	6720	4620
26	905	6010	6690	6670	7550	6920	5950	5330	4730	6410	6700	4900
27	1160	6120	6700	6900	7020	6950	6420	4280	4960	6320	6710	4940
28	1490	6170	6720	6690	6960	7110	4690	3210	5350	6400	6700	5000
29	1730	6420	6660	6570	---	7140	2790	2860	5500	6490	6520	4890
30	1960	6530	6640	6530	---	7060	3330	3920	5760	6530	5810	4650
31	2250	---	6580	6540	---	7150	---	4300	---	6730	5790	---
MEAN	3120	4890	6560	6630	6440	6640	5850	4160	3470	6190	6590	2890

07312500 WICHITA RIVER AT WICHITA FALLS, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.0	12.0	5.0	8.0	14.0	13.0	19.0	20.0	22.0	26.0	26.0	20.0
2	17.0	---	3.0	8.0	17.0	17.0	18.0	23.0	27.0	26.0	26.0	21.0
3	20.0	12.0	5.0	7.0	18.0	18.0	19.0	21.0	29.0	25.0	26.0	23.0
4	17.0	16.0	6.0	8.0	17.0	19.0	22.0	24.0	24.0	26.0	24.0	24.0
5	19.0	17.0	9.0	5.0	12.0	19.0	23.0	27.0	27.0	26.0	21.0	22.0
6	21.0	16.0	9.0	9.0	11.0	---	26.0	29.0	26.0	30.0	33.0	23.0
7	23.0	15.0	10.0	5.0	7.0	---	28.0	26.0	25.0	26.0	27.0	22.0
8	23.0	17.0	11.0	4.0	5.0	15.0	22.0	24.0	29.0	25.0	26.0	22.0
9	23.0	18.0	14.0	6.0	4.0	21.0	19.0	26.0	29.0	26.0	28.0	22.0
10	20.0	13.0	7.0	6.0	3.0	21.0	15.0	21.0	29.0	25.0	26.0	23.0
11	20.0	10.0	4.0	6.0	4.0	19.0	18.0	26.0	22.0	25.0	25.0	21.0
12	24.0	14.0	3.0	---	4.0	21.0	21.0	28.0	23.0	30.0	26.0	23.0
13	25.0	16.0	2.0	10.0	6.0	12.0	23.0	27.0	29.0	29.0	25.0	23.0
14	20.0	16.0	4.0	11.0	10.0	19.0	21.0	27.0	29.0	24.0	25.0	23.0
15	20.0	14.0	4.0	11.0	9.0	20.0	---	29.0	27.0	25.0	25.0	23.0
16	20.0	13.0	6.0	12.0	14.0	20.0	---	26.0	25.0	25.0	31.0	23.0
17	19.0	13.0	7.0	13.0	12.0	19.0	21.0	---	23.0	24.0	32.0	24.0
18	20.0	19.0	5.0	12.0	18.0	18.0	20.0	17.0	22.0	25.0	26.0	24.0
19	20.0	17.0	7.0	12.0	19.0	16.0	16.0	19.0	24.0	30.0	33.0	26.0
20	20.0	11.0	4.0	13.0	16.0	14.0	16.0	22.0	25.0	31.0	26.0	26.0
21	20.0	10.0	6.0	13.0	10.0	17.0	---	24.0	27.0	26.0	27.0	26.0
22	21.0	10.0	8.0	11.0	14.0	17.0	23.0	27.0	27.0	26.0	25.0	27.0
23	22.0	11.0	10.0	10.0	14.0	18.0	24.0	28.0	27.0	27.0	26.0	27.0
24	21.0	9.0	10.0	12.0	17.0	21.0	26.0	26.0	26.0	26.0	30.0	26.0
25	22.0	14.0	4.0	11.0	19.0	20.0	27.0	23.0	27.0	26.0	31.0	26.0
26	21.0	16.0	8.0	5.0	19.0	22.0	22.0	27.0	27.0	28.0	30.0	27.0
27	22.0	10.0	8.0	8.0	17.0	24.0	21.0	---	27.0	32.0	29.0	26.0
28	20.0	7.0	8.0	11.0	17.0	24.0	25.0	25.0	28.0	26.0	28.0	27.0
29	17.0	7.0	5.0	11.0	---	23.0	24.0	24.0	28.0	26.0	28.0	26.0
30	16.0	10.0	10.0	12.0	---	21.0	23.0	23.0	26.0	31.0	25.0	25.0
31	16.0	---	8.0	16.0	---	---	---	23.0	---	26.0	22.0	---
MEAN	20.0	13.0	7.0	9.5	12.5	19.0	21.5	24.5	26.0	27.0	27.0	24.0

07312700 WICHITA RIVER NEAR CHARLIE, TX

LOCATION.--Lat 34°03'11", long 98°17'47", Clay County, Hydrologic Unit 11130206, on right bank at upstream side of bridge on Farm Road 810, 3.0 mi southeast of Charlie, and 5.7 mi northwest of Petrolia.

DRAINAGE AREA.--3,439 mi^2, of which 2,086 mi^2 is above Lake Kemp Dam and 143 mi is above Lake Wichita Dam.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 872.71 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. For statement regarding regulations and diversions, see station 07312500. Records furnished by the city of Wichita Falls show that 15,820 acre-ft was returned to river above this station as sewage effluent and filter plant washwater. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years, 284 ft^3/s (205,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,090 ft^3/s Nov. 4, 1972 (gage height, 21.21 ft); maximum gage height, 22.32 ft May 15, 1982; minimum discharge, 24 ft^3/s Feb. 18, 1978, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,660 ft^3/s Sept. 11 at 1330 hours (gage height, 21.74 ft); minimum, 43 ft^3/s Mar. 5, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	163	208	141	54	88	49	81	172	100	115	85	711
2	316	190	109	54	101	48	80	412	111	222	73	522
3	245	178	79	56	117	49	180	253	116	287	77	1040
4	147	169	75	54	121	49	175	130	128	153	91	1870
5	106	161	72	52	127	47	154	92	220	136	97	3140
6	85	112	70	54	213	46	121	80	306	132	110	4160
7	82	99	70	54	183	46	95	79	501	139	145	4080
8	79	92	68	52	175	50	88	99	484	142	155	4150
9	79	92	67	54	161	52	80	111	337	122	172	4780
10	83	86	67	55	117	48	77	109	337	108	161	5390
11	100	75	67	55	87	48	86	120	2820	90	147	5610
12	103	75	65	55	72	72	94	84	3640	85	134	5390
13	115	79	65	54	62	70	106	110	1090	93	122	4050
14	181	79	63	55	56	65	95	97	352	120	103	1500
15	320	81	61	56	54	54	91	151	533	130	111	1000
16	191	124	59	57	52	57	95	123	913	107	120	898
17	248	91	59	57	51	53	93	154	1190	103	124	1510
18	497	81	59	56	52	54	79	313	1010	121	119	1890
19	787	79	59	56	52	95	134	592	1290	103	101	2060
20	1140	74	59	55	50	162	344	682	610	116	97	2120
21	1600	77	59	59	50	134	234	388	380	108	90	2300
22	1230	81	58	61	49	115	158	183	335	123	86	2490
23	325	84	58	106	49	98	102	125	254	154	86	2620
24	285	80	58	102	48	93	75	102	212	111	87	2680
25	448	78	56	104	49	89	61	119	158	110	88	2730
26	515	77	56	92	50	84	55	124	140	106	100	2690
27	448	78	54	92	50	87	53	223	131	108	93	2440
28	318	77	56	87	48	83	107	248	114	110	115	1900
29	246	75	56	82	---	84	174	249	114	100	107	1390
30	230	78	56	80	---	69	276	176	102	101	148	840
31	229	---	56	85	---	83	---	115	---	98	133	---
TOTAL	10941	3010	2057	2045	2384	2233	3643	6020	18028	3853	3477	77951
MEAN	353	100	66.4	66.0	85.1	72.0	121	194	601	124	112	2598
MAX	1600	208	141	106	213	162	344	682	3640	287	172	5610
MIN	79	74	54	52	48	46	53	79	100	86	73	522
AC-FT	21700	5970	4080	4060	4730	4430	7230	11940	35760	7640	6900	154600

CAL YR 1985 TOTAL 153834 MEAN 421 MAX 5590 MIN 54 AC-FT 305100
WTR YR 1986 TOTAL 135642 MEAN 372 MAX 5610 MIN 46 AC-FT 269000

07314000 LAKE KICKAPOO NEAR ARCHER CITY, TX

LOCATION.--Lat 33°39'47", long 98°46'43", Archer County, Hydrologic Unit 11130209, on intake tower near left end of dam on North Fork Little Wichita River, 8.2 mi south of Mankins, and 9.2 mi northwest of Archer City.

DRAINAGE AREA.--275 mi².

PERIOD OF RECORD.--February 1946 to current year. Prior to October 1965, monthend contents only.
Water-quality records.--Chemical analyses: October 1969 to September 1984.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Nonrecording gage read twice daily prior to Feb. 17, 1974, once daily thereafter. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by city of Wichita Falls). Prior to Oct. 8, 1946, water-stage recorder at same site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 8,200 ft long, including a 483-foot-wide reinforced concrete ogee-type uncontrolled spillway near right end of dam. The dam was completed Dec. 15, 1945, and storage began Feb. 1, 1946. The service outlet consists of two gate-controlled 4- by 5-foot conduits. The dam and lake are owned by the city of Wichita Falls, which uses the water for their municipal supply. The capacity table is based on Geological Survey topographic maps, dated 1929. The capacity curve, dated November 1946, was entitled "Lake Kickapoo Area & Capacity Curve". Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	1,062.0	-
Design flood (2-foot freeboard)	1,060.0	221,000
Crest of spillway	1,045.0	106,000
Lowest gated outlet (invert)	1,000.92	0

COOPERATION.--Capacity curve, record of lake elevations, and diversions for municipal use are provided by the city of Wichita Falls.

EXTREMES (at 0800) FOR PERIOD OF RECORD.--Maximum contents, 134,300 acre-ft Aug. 2, 1950 (elevation, 1,049.2 ft); minimum observed since first filling in July 1950, 35,660 acre-ft June 30, 1953 (elevation, 1,029.8 ft).

EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents, 113,800 acre-ft Sept. 6 (elevation, 1,046.2 ft); minimum, 81,450 acre-ft May 16 (elevation, 1,40.9 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

1,040.0	76,500	1,046.0	112,500
1,042.0	87,700	1,048.0	126,000
1,044.0	99,700		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92420	94210	91240	88880	86560	85990	83140	83140	84850	91830	85990	94820
2	92420	93600	91240	89470	87130	85420	83710	83140	85990	91830	85990	107300
3	92420	93600	91240	88880	87130	85420	84280	82570	86560	91830	85420	107950
4	92420	93600	91240	88880	87130	85420	84280	82570	86560	91830	85420	107950
5	92420	93600	91240	88880	87130	85420	84280	82570	87700	91830	85420	111200
6	91830	93010	91240	88880	87130	85420	84280	82570	90650	91240	85420	113840
7	92420	93010	91240	88880	87130	85420	84280	82570	92420	91240	85420	112500
8	91830	93010	90650	88290	87700	84850	84280	82570	92420	91240	85420	111200
9	91830	93010	90650	88290	87130	84850	84280	82000	92420	91240	85420	109900
10	91830	93010	90650	88290	87130	84850	84280	82000	92420	90650	85420	109900
11	91240	92420	90650	88290	87130	84850	84280	82000	93010	90650	85420	109900
12	91240	92420	90650	88290	87130	84850	83710	82000	93010	90060	85420	108600
13	91240	92420	90650	87700	87130	84850	83710	82000	93600	90060	84850	107950
14	92420	92420	90060	87700	87130	84850	83710	82000	93010	90060	84850	107300
15	92420	92420	90060	87700	86560	84850	83710	82000	93600	90060	84850	109250
16	92420	93010	90060	87700	86560	84850	83710	81450	93600	90060	84850	109250
17	92420	92420	90060	87700	86560	84850	84280	82000	93600	90060	84850	109250
18	93600	93010	90060	87700	86560	84850	83140	82000	93010	88880	84280	108600
19	94820	93600	90650	87700	86560	84850	83140	84850	93010	88880	84280	108600
20	94820	92420	90060	87700	86560	84850	83710	84850	93010	88290	84280	108600
21	94820	92420	90060	87700	86560	84850	83710	84850	93010	87700	84280	109250
22	94820	91830	90060	87700	86560	84850	83710	84850	93010	87700	84280	109250
23	95430	91830	90060	87130	86560	84850	83710	84850	92420	88290	83710	109250
24	95430	91830	90060	87130	85990	84850	83710	84280	92420	88290	83710	109250
25	94820	91830	90060	87130	85990	84280	83710	84280	92420	87700	83710	108600
26	94820	91830	90060	87130	85990	83710	83710	84280	92420	87130	83710	108600
27	94210	91830	89470	87130	85990	83710	83710	84850	92420	87130	83140	107950
28	94210	91240	89470	87130	85990	83710	83140	84850	91830	87130	83140	108600
29	94210	91240	88880	86560	---	83710	83140	84850	91830	87130	82570	107300
30	94210	91240	89470	86560	---	83710	83140	84850	91830	87130	82570	107300
31	94210	---	89470	86560	---	83710	---	84850	---	87130	82000	---
MAX	95430	94210	91240	89470	87700	85990	84280	84850	93600	91830	85990	113840
MIN	91240	91240	88880	86560	85990	83710	83140	81450	84850	87130	82000	94820
(†)	1043.1	1042.6	1042.3	1041.8	1041.7	1041.3	1041.2	1041.5	1042.7	1041.9	1041.0	1045.2
(‡)	+1790	-2970	-1770	-2910	-570	-2280	-570	+1710	+6980	-4700	-5130	+25300
(††)	192	105	130	82.0	107	91.9	80.5	154	133	157	74.1	94.6

CAL YR 1985	MAX 121200	MIN 55650	(‡)	+36260	(††)	1093
WTR YR 1986	MAX 113840	MIN 81450	(‡)	+14880	(††)	1401

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.
(††) Diversions, in acre-feet, for municipal use by the city of Wichita Falls.

07314500 LITTLE WICHITA RIVER NEAR ARCHER CITY, TX

LOCATION.--Lat 33°39'45", long 98°36'46", Archer County, Hydrologic Unit 11130209, on left bank at downstream side of bridge on State Highway 79, 1.5 mi downstream from confluence of North and Middle Forks, and 4.8 mi north of Archer City.

DRAINAGE AREA.--481 mi², of which 275 mi² is above Lake Kickapoo.

PERIOD OF RECORD.--May 1932 to January 1956, August 1966 to current year.
Water-quality records.--Chemical analyses: January 1953 to January 1956. Water temperatures: January 1953 to January 1956. Sediment records: May 1968 to September 1975.

REVISED RECORDS.--WSP 827: 1932-35. WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 934.72 ft above National Geodetic Vertical Datum of 1929. Aug. 17, 1954, to Jan. 6, 1956, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: July 8, 9. Records fair except those for periods of estimated daily discharges, which are poor. Some regulation by Lake Kickapoo (station 07314000) on North Fork Little Wichita River. Records furnished by the city of Wichita Falls show that 1,401 acre-ft was diverted from Lake Kickapoo for municipal use during the current year. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--13 years (water years 1933-45) prior to completion of Lake Kickapoo, 110 ft³/s (79,700 acre-ft/yr); 30 years (water years 1946-55, 1967-86) regulated, 45.2 ft³/s (32,750 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,900 ft³/s Oct. 31, 1941 (gage height, 26.13 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1930 reached a stage of about 28 ft, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,400 ft³/s Sept. 7 at 1230 hours (gage height, 21.58 ft); no flow for several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	5.0	4.7	.25	.19	.01	11	15	3.9	1.4	.01	493
2	.08	4.0	4.0	.25	.19	.02	16	20	339	8.6	.02	763
3	.11	3.4	5.8	.20	.19	.02	40	21	530	232	.01	145
4	.13	2.9	4.5	.19	.08	.02	22	5.5	153	226	.02	48
5	.16	1.5	3.4	.23	.00	.02	22	1.6	472	67	.03	684
6	.19	1.4	2.9	.25	.03	.02	14	.72	658	42	.02	1280
7	.33	.50	2.6	.25	5.5	.02	7.5	.07	741	25	.01	1370
8	.41	.61	2.0	.25	1.7	.03	3.8	.01	259	8.6	.01	1100
9	.53	.99	2.0	.24	.08	.03	4.8	.53	55	5.3	.00	741
10	.50	.61	1.7	.19	.02	.03	5.0	218	37	6.4	.00	468
11	.50	.25	2.4	.19	.00	.04	3.1	497	428	2.4	2.1	264
12	.61	.08	1.3	.19	.00	.04	2.5	361	621	1.5	.49	176
13	.78	.08	1.2	.19	.00	.04	2.0	29	431	1.1	.04	94
14	54	.19	.96	.19	.00	.04	1.9	10	56	.97	.00	68
15	107	.04	.57	.19	.00	1.8	1.5	6.3	100	1.1	.00	55
16	77	11	.44	.26	.00	3.0	1.1	2.5	174	.85	.00	49
17	32	7.6	.24	.40	.00	1.8	.94	13	106	.48	.00	35
18	132	2.7	.05	.45	.00	3.1	.63	280	92	.46	.00	24
19	437	1.2	.18	.85	.00	5.6	38	561	71	.44	.00	35
20	195	.34	.19	.84	.01	11	350	177	46	.40	.00	102
21	81	.04	.19	.51	.02	14	156	25	38	.40	.00	98
22	23	.01	.24	.30	.03	13	38	9.4	19	.39	.00	58
23	11	.01	.24	.50	.03	11	13	5.6	14	2.3	.00	39
24	8.6	.00	.20	1.0	.03	10	6.4	2.1	9.8	5.1	.00	20
25	5.3	.00	.25	.80	.03	8.9	2.4	.71	4.9	1.3	.00	11
26	3.7	.00	.25	.61	.03	8.1	1.3	.11	3.1	.50	.00	7.4
27	4.0	.33	.20	.36	.02	7.6	.93	2.4	2.3	.27	.00	4.1
28	3.7	.47	.24	.21	.02	7.1	.21	3.7	1.9	.07	.00	3.1
29	6.4	4.7	.25	.20	---	8.1	.02	6.3	1.6	.03	.00	1.6
30	9.0	8.9	.22	.19	---	9.3	.10	6.4	1.5	.01	.00	1.0
31	6.8	---	.25	.19	---	10	---	3.4	---	.01	5.2	---
TOTAL	1200.91	58.85	43.66	10.92	8.20	133.78	766.13	2284.35	5469.0	642.38	7.96	8237.2
MEAN	38.7	1.96	1.41	.35	.29	4.32	25.5	73.7	182	20.7	.26	275
MAX	437	11	5.8	1.0	5.5	14	350	561	741	232	5.2	1370
MIN	.08	.00	.05	.19	.00	.01	.02	.01	1.5	.01	.00	1.0
AC-FT	2380	117	87	22	16	265	1520	4530	10850	1270	16	16340

CAL YR 1985 TOTAL 58665.49 MEAN 161 MAX 7510 MIN .00 AC-FT 116400
WTR YR 1986 TOTAL 18863.34 MEAN 51.7 MAX 1370 MIN .00 AC-FT 37420

07314800 LAKE ARROWHEAD NEAR HENRIETTA, TX

LOCATION.--Lat 33°45'51", long 98°22'17", Clay County, Hydrologic Unit 11130209, at intake tower near center of dam on Little Wichita River, 2.3 mi upstream from Lake Creek, 11 mi southwest of Henrietta, and 12.3 mi southeast of Wichita Falls.

DRAINAGE AREA.--822 mi².

PERIOD OF RECORD.--June 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 0.40 ft below National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a rolled earthfill dam 15,900 ft long, including an uncontrolled reinforced concrete ogee spillway 1,581 ft wide located near the left end of dam. The dam was completed in December 1966 and storage began in June 1967. The service outlet works, located in a cylindrical service tower at upstream side of dam, consist of two gated 5-foot-diameter inlets that can be used for controlled releases. The dam was built by the city of Wichita Falls to impound water for municipal, industrial, and recreational uses. The area-capacity curves are based on Geological Survey topographic maps. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam..	944.4	-
Design flood..	939.95	551,400
Crest of spillway (top of conservation pool)........................	926.4	262,100
Lowest gated outlet (invert)..	874.1	-

COOPERATION.--Capacity table provided by Homer Hunter and Associates and Biggs and Mathews, Consulting Engineers, for the city of Wichita Falls. Area-capacity curves provided by Homer Hunter and Associates. Record of diversions provided by the city of Wichita Falls.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 279,200 acre-ft June 10, 1965 (gage height, 927.43 ft); minimum since first appreciable storage, 4,640 acre-ft Aug. 31 to Sept. 4, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 265,100 acre-ft Sept. 10 (gage height, 926.58 ft); minimum, 214,500 acre-ft May 8 (gage height, 923.26 ft).

Capacity table (gage height, in feet, and total contents, in acre-feet)

922.0	197,000	926.0	255,700
924.0	225,200	928.0	288,900

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	227800	229900	225200	224900	222300	220500	218600	216700	223700	246100	235100	230500
2	227500	229600	226200	224800	222100	220300	218600	216700	224000	246100	233900	232700
3	228000	229500	226800	225100	222800	220200	218900	216700	225100	246500	234400	234100
4	226400	229900	226500	224200	222300	220200	219300	217200	225300	247200	233500	236300
5	226800	230000	226800	224300	222500	219900	219000	216600	227300	246900	233500	247700
6	226700	228600	227400	223400	222100	220300	218600	215500	228900	246100	233000	252400
7	227800	228900	226500	222700	221800	219400	218300	215200	230200	245400	232700	255500
8	226500	229200	226800	223400	221800	221400	217900	214700	231100	245100	232600	259700
9	226500	229600	225800	223600	220800	221700	217400	215600	232000	244900	231800	262900
10	225800	227400	225500	223400	221200	220000	217200	216700	233300	244500	231700	264600
11	227400	227700	225600	223700	221200	221200	217000	218400	237100	244300	231800	264100
12	226200	228300	225500	223600	221700	221200	216900	219700	240100	245700	231500	263800
13	226200	228100	225500	224000	223000	220000	218300	219700	241800	243200	231400	263400
14	227100	227000	226100	223100	221700	220500	216600	219600	239500	242900	230800	263400
15	227300	227700	225800	224200	222800	219600	216700	220600	245500	243700	230500	263300
16	227500	228100	225500	223600	222400	220900	216500	219000	247500	242000	231500	263100
17	228000	229500	225600	223900	222400	220000	217200	219900	248600	241700	230900	262800
18	229900	228900	225200	223400	222300	219900	216600	221800	248800	240100	230500	263800
19	230900	227300	225300	223700	222400	219600	216500	223600	249900	240400	229900	261600
20	231400	227000	225300	224200	220300	219300	219400	224900	249700	240600	229000	261300
21	231800	227300	225900	222700	220600	219700	218600	224600	249700	239500	228600	261300
22	232000	227300	225500	222700	221200	219400	218600	225200	249400	239200	228100	261500
23	231500	226500	225200	223600	221100	219400	219000	224200	249000	239100	227500	261500
24	231500	227000	224300	222800	221400	218900	218400	224000	249100	238600	227300	261800
25	231200	227300	225200	222300	221400	219300	218000	224000	248600	238400	227100	260500
26	231100	226700	224600	221200	220300	218400	218000	224000	248300	237500	226500	260300
27	230500	226400	224500	222300	220200	218300	216600	224000	248200	237200	226100	260200
28	230600	226400	224600	222100	220200	218700	217200	224200	247700	236600	225100	259900
29	229200	227000	225200	221500	---	217900	217200	223700	247200	236200	225300	261100
30	230200	225900	224600	222100	---	217900	216700	223700	246900	236600	224900	260200
31	230200	---	224800	222300	---	218600	---	223700	---	235700	228400	---
MAX	232000	230000	227400	225100	223000	221700	219400	225200	249900	247200	235100	264600
MIN	225800	225900	224300	221200	220200	217900	216500	214700	223700	235700	224900	230500
(†)	924.34	924.05	923.97	923.80	923.66	923.55	923.42	923.90	925.44	924.71	924.22	926.28
(‡)	+3200	-4300	-1100	-2500	-2100	-1600	-1900	+7000	+23200	-11200	-7300	+31800
(††)	1490	1300	1330	1500	1240	1670	1630	1560	1780	2930	2760	1300

CAL YR 1985 MAX 278500 MIN 196100 (‡) +30600 (††) 23000
WTR YR 1986 MAX 264600 MIN 214700 (‡) +33200 (††) 20490

(†) Gage height, in feet, at end of month.
(‡) Change in contents, in acre-feet.
(††) Diversions, in acre-feet, for municipal use by the city of Wichita Falls.

07314900 LITTLE WICHITA RIVER ABOVE HENRIETTA, TX

LOCATION.--Lat 33°49'36", long 98°14'23", Clay County, Hydrologic Unit 11130209, on right bank at downstream side of bridge on U.S. Highways 82 and 287, 1.0 mi downstream from Duck Creek, 2.8 mi west of Henrietta, 6.6 mi upstream from Turkey Creek, and 7.6 mi upstream from Dry Fork Little Wichita River.

DRAINAGE AREA.--1,037 mi².

PERIOD OF RECORD.--January 1953 to current year. Prior to October 1974, published as "near Henrietta".
Water-quality records.--Chemical analyses: December 1952 to January 1956, November 1959 to September 1966, January 1968 to September 1985.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 831.57 ft above National Geodetic Vertical Datum of 1929. Prior to June 26, 1953, nonrecording gage. Prior to July 11, 1975, at site 2.6 mi downstream at same datum.

REMARKS.--No estimated daily discharge. Records fair. Flow largely regulated by Lake Arrowhead 39 mi upstream (capacit 262,100 acre-ft). The city of Wichita Falls diverted 1,401 acre-ft from Lake Kickapoo and 20,495 acre-ft from Lake Arrowhead for municipal uses, and returned 12,279 acre-ft as sewage effluent and filter plant washwater to the Wichita River below station 07312500 at Wichita Falls and above station 07312700 near Charlie. The city of Henrietta diverted 598 acre-ft from pool at gage for municipal use. Record of diversions furnished by the cities of Wichita Falls and Henrietta, respectively.

AVERAGE DISCHARGE.--13 years (water years 1954-66) prior to completion of Lake Arrowhead, 124 ft³/s (89,840 acre-ft/yr); 20 years (water years 1967-86) regulated, 43.2 ft³/s (31,300 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,630 ft³/s May 1, 1966 (gage height, 18.28 ft, at former site); maximum gage height, 23.95 ft May 24, 1982, at present site; no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1908 reached a stage of 21 ft at former site, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,880 ft³/s Sept. 5 at 1730 hours (gage height, 22.94 ft); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.16	.00	.00	.00	.00	.00	2.3	20	.08	.00	32
2	.00	.16	.00	.00	.00	.00	.00	1.9	20	.08	.00	8.4
3	.00	.00	.00	.00	.00	.00	.00	1.5	19	.07	.00	7.0
4	.00	.00	.00	.00	.00	.00	.00	.57	18	.00	.00	255
5	.00	.00	.00	.00	.00	.00	.00	.11	18	1.4	.00	2090
6	.00	.00	.00	.00	.00	.00	.00	.00	22	8.2	.00	2590
7	.00	.00	.00	.00	.00	.00	.00	.00	36	5.9	.00	2020
8	.00	.00	.00	.00	.00	.00	.00	.00	31	4.7	.00	755
9	.00	.00	.00	.00	.00	.00	.00	.00	33	3.9	.00	84
10	.00	.00	.00	.00	.00	.00	.00	.17	34	2.4	.00	69
11	.00	.00	.00	.00	.00	.00	.00	.00	426	1.2	.00	270
12	.00	.00	.00	.00	.00	.00	.00	.00	688	.45	.00	233
13	.00	.00	.00	.00	.00	.00	.00	.00	517	.03	.00	226
14	4.0	.00	.00	.00	.00	.00	.00	.00	109	.00	.00	186
15	5.9	.00	.00	.00	.00	.00	.00	.03	199	.00	.00	152
16	.31	.00	.00	.00	.00	.00	.00	.00	274	.00	.00	137
17	13	.00	.00	.00	.00	.00	.00	4.0	369	.00	.00	100
18	81	.00	.00	.00	.00	.00	.00	14	179	.00	.00	83
19	66	.00	.00	.00	.00	.00	5.6	14	82	.00	.00	58
20	39	.00	.00	.00	3.6	.00	14	11	43	.00	13	46
21	14	.00	.00	.00	7.6	.00	17	12	31	.00	17	29
22	8.5	.00	.00	.00	12	.00	7.9	12	25	.06	16	21
23	5.9	.00	.00	.00	16	.00	1.5	13	18	23	17	17
24	5.2	.00	.00	.00	21	.00	1.1	12	13	24	17	14
25	3.5	.00	.00	.00	25	.00	2.5	15	9.4	24	21	21
26	2.4	.00	.00	.00	21	.00	3.1	18	5.3	14	17	22
27	1.6	.00	.00	.00	6.8	.00	2.9	26	4.7	.13	13	15
28	.75	.00	.00	.00	.00	.00	3.0	28	3.9	.00	4.2	9.6
29	.45	.00	.00	.00	---	.00	3.0	24	2.6	.00	2.1	6.2
30	.27	.00	.00	.00	---	.00	2.5	19	.48	.00	.55	7.2
31	.16	---	.00	.00	---	.00	---	19	---	.00	1.2	---
TOTAL	251.94	.32	.00	.00	113.00	.00	64.10	247.58	3250.38	113.60	139.05	9563.4
MEAN	8.13	.01	.00	.00	4.04	.00	2.14	7.99	108	3.66	4.49	319
MAX	81	.16	.00	.00	25	.00	17	28	688	24	21	2590
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.48	.00	.00	6.2
AC-FT	500	.6	.00	.00	224	.00	127	491	6450	225	276	18970

CAL YR 1985 TOTAL 60342.09 MEAN 165 MAX 3510 MIN .00 AC-FT 119700
WTR YR 1986 TOTAL 13743.37 MEAN 37.7 MAX 2590 MIN .00 AC-FT 27260

07315200 EAST FORK LITTLE WICHITA RIVER NEAR HENRIETTA, TX

LOCATION.--Lat 33°48'46", long 98°05'05", Clay County, Hydrologic Unit 11130209, at downstream side of bridge on U.S. Highway 82, 5.8 mi upstream from Little Wichita River, 6.4 mi east of Henrietta, and 8.9 mi west of Ringgold.

DRAINAGE AREA.--178 mi^2.

PERIOD OF RECORD.--November 1963 to current year.

REVISED RECORDS.--WRD TX-72-1: 1966(M).

GAGE.--Water-stage recorder. Datum of gage is 825.32 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. There are no known diversions upstream from station.

AVERAGE DISCHARGE.--22 years (water years 1965-86), 26.8 ft^3/s (2.04 in/yr), 19,420 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft^3/s Oct. 13, 1981 (gage height, 31.70 ft), from rating curve extended above 5,100 ft^3/s on basis of contracted-opening measurement of 15,500 ft^3/s; no flow for many days most years.

Maximum stage since at least 1920, that of Oct. 13, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in October 1941 reached a stage of 28.8 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge (revised) of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	0900	*1,140	19.93	Sept. 7	0300	944	18.87
May 12	0300	807	17.81				

Minimum discharge, no flow for several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	1.2	19	.26	.35	.15	.27	.88	3.8	.22	.01	.11
2	.00	.95	93	.27	.38	.15	.33	41	3.0	.28	.01	.16
3	.00	.69	35	.28	.40	.13	.48	26	81	.18	.01	.11
4	.00	.68	11	.28	.41	.16	.47	9.7	51	.14	.01	21
5	.01	.58	6.1	.27	.35	.13	.39	5.1	23	.13	.01	530
6	.02	.55	3.8	.28	.38	.13	.34	3.2	94	.11	.01	713
7	.04	.36	2.6	.26	.36	.12	.32	2.2	72	.09	.01	578
8	.07	.34	1.8	.25	.33	.12	.27	1.5	22	.08	.01	20
9	.10	.23	1.3	.25	.27	.12	.21	7.2	12	.07	.02	6.4
10	.16	.21	.91	.26	.23	.09	.20	206	11	.06	.02	2.9
11	.18	.21	.73	.26	.21	.13	.18	577	132	.06	.03	1.4
12	.21	.21	.62	.25	.21	.09	.15	514	409	.06	.02	.65
13	.28	.29	.55	.25	.19	.07	.16	34	183	.07	.02	.37
14	.46	.19	.51	.28	.17	.13	.17	14	24	.07	.01	.26
15	184	.17	.47	.28	.17	.13	.17	18	120	.06	.01	.19
16	109	.17	.44	.30	.17	.16	.14	43	304	.05	.02	.15
17	12	.17	.41	.29	.16	.17	.13	26	428	.05	.02	.13
18	328	.21	.37	.30	.16	.22	.14	45	181	.05	.02	.12
19	672	.21	.35	.30	.16	.16	51	264	49	.04	.01	.13
20	1030	.21	.33	.31	.15	.14	94	119	22	.04	.01	.15
21	191	.24	.32	.32	.15	.12	72	32	28	.05	.01	.14
22	16	.26	.30	.32	.14	.10	22	14	8.6	.05	.01	.12
23	7.3	.28	.29	.33	.15	.08	8.9	7.7	4.0	.05	.01	.11
24	4.0	.23	.43	.34	.14	.08	4.9	5.3	2.6	.04	.01	.12
25	9.4	.24	.39	.33	.14	.14	3.1	4.4	2.5	.03	.01	.13
26	37	.28	.29	.32	.15	.19	2.2	11	2.8	.02	.01	.13
27	58	.32	.26	.32	.16	.23	1.6	12	1.5	.02	.01	.13
28	13	1.9	.26	.32	.15	.27	1.3	29	.75	.01	.01	.12
29	4.8	1.5	.28	.33	---	.29	1.2	22	.44	.01	.01	.12
30	2.7	1.3	.28	.28	---	.28	.97	9.4	.32	.01	.00	.13
31	1.7	---	.27	.31	---	.27	---	5.5	---	.01	.04	---
TOTAL	2681.44	14.38	182.66	9.00	6.39	4.75	267.69	2109.08	2276.31	2.21	.42	1876.48
MEAN	86.5	.48	5.89	.29	.23	.15	8.92	68.0	75.9	.07	.01	62.5
MAX	1030	1.9	93	.34	.41	.29	94	577	428	.28	.04	713
MIN	.00	.17	.26	.25	.14	.07	.13	.88	.32	.01	.00	.11
CFSM	.49	.00	.03	.00	.00	.00	.05	.38	.43	.00	.00	.35
IN.	.56	.00	.04	.00	.00	.00	.06	.44	.48	.00	.00	.39
AC-FT	5320	29	362	18	13	9.4	531	4180	4520	4.4	.8	3720

CAL YR 1985 TOTAL 26376.08 MEAN 72.3 MAX 3230 MIN .00 CFSM .41 IN. 5.51 AC-FT 52320
WTR YR 1986 TOTAL 9430.81 MEAN 25.8 MAX 1030 MIN .00 CFSM .14 IN. 1.97 AC-FT 18710

07315500 RED RIVER NEAR TERRAL, OK

LOCATION.--Lat 33°52'43", long 97°56'03", Jefferson County, Hydrologic Unit 11130201, on left bank at downstream side of bridge abutment on U.S. Highway 81, 0.5 mi downstream from Chicago, Rock Island, and Railroad Co. bridge, 1.2 mi south of Terral, 3.6 mi downstream from Little Wichita River, and at mile 872.

DRAINAGE AREA.--28,723 mi², of which 5,936 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 770.31 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 12, 1939, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. There are many small diversions upstream for irrigation, oilfield, and municipal uses upstream from station. Gage-height telemeter at station via Sutron Data Collection Platform.

AVERAGE DISCHARGE.--48 years (water years 1939-86), 2,169 ft³/s (1,571,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 210,000 ft³/s Oct. 22, 1983 (gage height, 33.60 ft); minimum, 43 ft³/s Mar. 15, 1939.
Maximum stage since at least 1891, that of Oct. 22, 1983.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 19, 1935, reached a stage of 27.2 ft, although floods in 1891 and on May 1, 1908, are reported to have reached about the same stage.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 21,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 20	1300	*56,000	20.13	Sept. 6	0900	37,200	18.52

Minimum discharge, 273 ft³/s Aug. 8, 9, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7570	2320	912	699	447	512	627	754	2270	1120	322	939
2	6140	1880	842	541	454	500	647	683	1890	953	314	7090
3	4210	1410	931	576	471	479	585	805	1910	891	294	13200
4	2030	1260	864	543	492	547	679	918	2320	1190	297	13600
5	1480	1240	874	518	514	627	1220	718	4430	2750	307	28100
6	1160	1150	795	505	561	868	1030	631	5360	2680	283	35200
7	948	1060	745	492	598	871	832	413	7320	1840	280	26400
8	804	991	728	474	800	810	714	354	4370	1410	273	19800
9	707	964	724	479	784	703	697	387	4000	1160	273	13300
10	665	899	709	505	775	704	863	683	3280	929	290	9290
11	625	860	695	508	788	671	838	934	4370	784	280	8610
12	5600	836	695	511	738	660	724	1770	7490	697	287	9760
13	7450	820	688	482	720	664	491	1700	8320	661	273	7490
14	4090	772	736	472	717	1840	442	1310	8550	891	307	6490
15	5720	754	763	464	714	1430	422	1040	8660	734	312	10300
16	9770	1050	740	460	726	1080	401	851	6420	639	324	9830
17	5160	2150	691	457	734	972	388	2060	7480	575	313	7140
18	8320	4190	655	451	738	1090	372	5700	8380	522	301	11600
19	32800	2870	627	442	759	1060	479	10700	7900	490	294	7830
20	51400	2040	622	443	778	1310	742	9320	5620	482	292	7290
21	26600	1920	622	434	793	913	876	6210	3020	457	347	5420
22	11500	1710	617	423	745	728	747	3440	2110	461	415	4890
23	7510	1350	622	423	658	630	659	2400	1700	490	370	4420
24	4970	1140	617	434	693	560	537	1850	1580	524	332	3860
25	4090	1040	630	446	646	517	440	1340	1420	645	312	3630
26	3740	985	861	430	594	499	386	3610	1280	735	303	3380
27	3560	949	865	447	557	480	360	7990	2030	753	331	3270
28	3180	896	840	442	530	448	355	12500	2290	539	328	3010
29	2700	845	831	438	---	424	337	8690	1790	478	304	2520
30	2620	840	837	421	---	624	500	5920	1340	396	399	1940
31	2520	---	887	443	---	652	---	3320	---	344	387	---
TOTAL	229639	41191	23265	14903	18524	23873	18390	99001	128900	27220	9744	289599
MEAN	7408	1373	750	481	662	770	613	3194	4297	878	314	9653
MAX	51400	4190	931	699	800	1840	1220	12500	8660	2750	415	35200
MIN	625	754	617	421	447	424	337	354	1280	344	273	939
AC-FT	455500	81700	46150	29560	36740	47350	36480	196400	255700	53990	19330	574400

CAL YR 1985 TOTAL 1528028 MEAN 4186 MAX 59500 MIN 294 AC-FT 3031000
WTR YR 1986 TOTAL 924249 MEAN 2532 MAX 51400 MIN 273 AC-FT 1833000

07315500 RED RIVER NEAR TERRAL, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1967 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to current year.
WATER TEMPERATURES: October 1967 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 13,000 microsiemens June 15, 1984; minimum daily, 255 microsiemens Jan. 1.
WATER TEMPERATURES: Maximum daily, 35.0°C Aug. 13, 16, 17, 1983; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 9,580 microsiemens Feb. 21; minimum daily, 760 microsiemens Oct. 20.
WATER TEMPERATURES: Maximum daily, 29.0°C on several days during June, July, and August; minimum daily, 1.0° C Dec. 3, Feb. 2, 4.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT									
20...	1115	54200	790	--	19.5	160	75	48	9.4
NOV									
12...	1100	846	5890	--	13.0	960	770	260	75
FEB									
28...	0845	530	8530	--	10.0	1300	1100	310	120
MAY									
05...	1440	721	2870	7.80	23.0	510	370	130	45
19...	1200	10100	1850	7.50	18.0	340	250	100	23
SEP									
03...	1445	11500	4150	7.60	--	560	490	170	34

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT									
20...	90	3	3.7	84	87	130	0.3	9.2	430
NOV									
12...	940	14	8.2	189	720	1500	0.4	10	3600
FEB									
28...	1700	21	9.1	187	1100	2400	0.5	4.0	5800
MAY									
05...	390	8	6.3	140	320	670	0.4	4.6	1700
19...	230	6	6.7	90	280	350	0.3	8.7	1100
SEP									
03...	620	12	8.0	75	520	990	0.4	8.5	2400

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	229639	1710	1030	638000	360	220300	220	134400	340
NOV. 1985	41191	4040	2460	274000	910	101100	510	56300	750
DEC. 1985	23265	5320	3280	206000	1300	79200	660	41600	950
JAN. 1986	14903	6430	3990	161000	1600	63600	800	32000	1100
FEB. 1986	18524	6540	4090	205000	1700	83300	810	40300	1100
MAR. 1986	23873	4410	2700	174000	1000	65800	550	35400	800
APR. 1986	18390	4170	2550	126000	940	46700	520	25900	770
MAY 1986	99001	1640	980	262000	330	88300	210	55700	330
JUNE 1986	128900	2030	1210	422000	420	144800	260	89200	400
JULY 1986	27220	4490	2740	201000	1000	74900	560	41200	830
AUG. 1986	9744	5530	3410	89800	1300	34700	690	18100	980
SEPT 1986	289599	2110	1270	990000	440	341000	270	208600	410
TOTAL	924249	**	**	3749000	**	1344000	**	779000	**
WTD.AVG.	2532	2480	1500	**	540	**	310	**	470

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2190	2850	3500	6000	5970	8510	3900	4670	2340	4040	5010	4630
2	1550	2970	4120	5800	5860	8500	3840	4380	2110	4140	5040	4700
3	1500	3760	4330	5970	5570	8300	4050	3890	2070	4240	4860	4150
4	2190	4360	5230	6240	4640	8200	4280	3020	1750	4570	5100	2700
5	2850	4650	3200	6350	4060	6870	3460	2840	1030	5160	4860	1930
6	3260	4970	3150	6480	4770	4760	2990	2800	1340	4750	5170	1130
7	3770	5290	5040	6530	3510	4380	3010	3810	2620	3300	5360	1090
8	4140	5460	5170	6880	2590	4190	3320	4860	3500	3220	5140	1080
9	4200	5710	5790	6370	3300	4600	3750	5140	2840	3400	4960	1600
10	4110	5820	4040	6720	4070	4580	3160	3560	2480	5110	4880	2160
11	4270	6020	4520	6710	4730	4500	3330	3790	1610	4680	4840	2120
12	4560	5900	4730	6570	4870	4790	3320	2110	1790	4550	4970	1770
13	5560	6020	5560	6650	5250	4380	5560	1950	1160	4780	4540	1970
14	4480	6050	6080	6460	5460	3440	6170	2650	1800	6380	4920	2260
15	4090	6040	5800	6480	6030	2210	6440	3380	1500	5420	5300	1700
16	2440	4990	5940	6490	6140	2720	6260	2560	1370	4100	4770	1380
17	1560	2760	5880	6540	7620	3120	6200	1330	1440	4240	4690	1760
18	1350	3070	6080	6510	8140	3240	6110	1050	1450	4510	4880	1750
19	1080	3100	6300	6310	8260	3470	5000	910	1520	4730	5080	2530
20	760	3040	6570	6380	8350	2480	3330	1000	1560	4970	5110	2740
21	790	2800	7050	6410	9580	2600	3260	1160	1530	5020	5160	2600
22	810	2570	6990	6450	9480	3990	4390	1650	2110	5050	5840	2460
23	1060	3040	7120	6510	9400	4730	4040	2030	2460	4660	8620	2650
24	1530	4000	7010	6500	9370	5910	4270	2250	4160	4740	7380	3150
25	1960	4670	7400	6410	9500	5840	4820	3260	5450	5040	6580	3700
26	2290	4900	5520	6340	8750	5970	5330	2660	4660	5430	6640	4220
27	2620	5070	5410	6360	8700	5740	5280	1850	4880	3770	6940	4510
28	2860	5140	5240	6580	8530	5990	5380	820	4300	3330	6880	4650
29	3100	5380	5020	6620	---	6100	5620	1390	4670	3320	5970	4730
30	3270	5640	5120	6650	---	4600	5290	1820	4070	4600	5420	4810
31	3790	---	5290	6560	---	3960	---	2200	---	5100	5210	---
MEAN	2710	4530	5430	6450	6520	4920	4510	2610	2520	4530	5490	2750

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	15.0	4.0	7.0	14.0	10.0	19.0	22.0	20.0	27.0	29.0	21.0
2	14.0	13.0	1.0	7.0	---	11.0	18.0	20.0	22.0	28.0	28.0	22.0
3	16.0	13.0	3.0	7.0	11.0	13.0	17.0	21.0	24.0	28.5	26.0	24.0
4	17.0	14.0	9.0	6.0	16.0	15.0	18.0	22.0	28.0	27.0	24.0	23.0
5	16.0	15.0	8.0	4.0	12.0	13.0	19.0	22.0	23.0	25.0	26.0	23.0
6	17.0	14.0	9.0	4.0	10.0	13.0	20.0	23.0	25.0	---	26.0	24.0
7	16.0	13.0	9.0	4.0	8.0	12.0	22.0	22.0	25.0	26.0	25.0	22.0
8	22.0	13.0	10.0	3.0	5.0	11.0	18.0	22.0	25.0	27.0	26.0	22.0
9	23.0	17.0	12.0	3.0	---	16.0	16.0	21.0	26.0	27.0	26.0	23.0
10	20.0	16.0	9.0	3.0	---	12.0	16.0	20.0	25.0	27.0	29.0	24.0
11	17.0	11.0	4.0	4.0	3.0	14.0	17.0	21.0	25.0	26.0	27.0	24.0
12	20.0	13.0	3.0	6.0	3.0	13.0	17.0	24.0	25.0	26.0	27.0	24.0
13	20.0	19.0	---	6.0	3.0	14.0	18.0	23.0	25.0	26.0	26.0	25.0
14	21.0	18.0	3.0	7.0	6.0	15.0	16.0	24.0	26.0	29.0	26.0	25.0
15	18.0	14.0	4.0	7.0	7.0	14.0	16.0	23.0	24.0	26.0	28.0	25.0
16	22.0	12.0	5.0	11.0	11.0	14.0	16.0	23.0	25.0	26.0	29.0	24.0
17	19.0	14.0	6.0	7.0	12.0	15.0	---	21.0	24.0	25.0	28.0	25.0
18	20.0	16.0	4.0	12.0	13.0	15.0	19.0	21.0	25.0	26.0	28.0	25.0
19	19.0	16.0	3.0	11.0	15.0	13.0	16.0	17.0	25.0	---	27.0	25.0
20	19.0	10.0	4.0	9.0	14.0	11.0	14.0	18.0	26.0	---	28.0	25.0
21	19.0	9.0	5.0	11.0	6.0	12.0	17.0	20.0	27.0	29.0	28.0	---
22	20.0	9.0	6.0	8.0	8.0	12.0	14.0	21.0	28.0	24.0	26.0	26.0
23	20.0	11.0	6.0	7.0	---	13.0	17.0	25.0	27.0	28.0	27.0	26.0
24	20.0	10.0	5.0	10.0	13.0	15.0	19.0	24.0	29.0	27.0	25.0	26.0
25	21.0	12.0	5.0	9.0	12.0	15.0	21.0	26.0	28.0	26.0	26.0	26.0
26	20.0	15.0	5.0	7.0	16.0	16.0	23.0	25.0	28.0	27.0	27.0	26.0
27	21.0	11.0	6.0	4.0	15.0	17.0	21.0	21.0	28.0	28.0	26.0	25.0
28	20.0	7.0	6.0	8.0	10.0	17.0	21.0	20.0	28.0	26.0	23.0	---
29	17.0	7.0	6.0	10.0	---	16.0	21.0	21.0	28.0	29.0	22.0	24.0
30	15.0	10.0	7.0	8.0	---	18.0	24.0	23.0	28.0	28.0	21.0	25.0
31	14.0	---	7.0	12.0	---	18.0	---	22.0	---	28.0	21.0	---
MEAN	18.5	13.0	6.0	7.0	10.0	14.0	18.5	22.0	25.5	27.0	26.0	24.5

07315950 MOSS LAKE NEAR GAINESVILLE, TX

LOCATION.--Lat 33°46'26", long 97°12'50", Cooke County, Hydrolgic Unit 11130201, on top of upstream side of dam adjacent to guardrail of roadway about 250 ft from right end of Fish Creek dam on Fish Creek, 1.6 mi upstream from Bearhead Creek, 3.7 mi upstream from mouth, and 10 mi northwest of Gainesville.

DRAINAGE AREA.--65 mi^2.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Apr. 20, 1979, recording gage at site about 150 ft upstream at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 1,460 ft long. The dam was completed and storage began Dec. 2, 1966. An uncontrolled morning-glory-type spillway with a 7- by 7-foot opening is designed to discharge 2,500 ft^3/s at a 10-foot head. The emergency spillway is a 400-foot-wide cut through natural ground located about 100 ft to the left of the left end of dam. The dam was built by the city of Gainesville to impound water for municipal use. Area and capacity tables are based on a 1961 survey. There was no diversion from the lake during the current water year. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	740.0	-
Top of design flood pool....................................	736.0	55,230
Crest of spillway...	725.0	36,440
Crest of spillway morning-glory type (top of conservation pool)...	715.0	23,210
Lowest gated outlet (invert)................................	666.0	78

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 50,990 acre-ft Oct. 13, 1981 (elevation, 733.72 ft); minimum since lake filled in May 1968, 17,740 acre-ft Sept. 26, 1980 (elevation, 709.67 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 24,600 acre-ft May 31 at 2000 hours (elevation, 716.20 ft); minimum, 21,050 acre-ft Oct. 11-12 (elevation, 713.01 ft).

Capacity table (elevation, in feet, and contents, in acre-feet)

713.0	21,040	716.0	24,360
714.0	22,110	717.0	25,550

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21200	21680	21650	21800	21770	22070	22090	23670	24460	22990	22210	21750
2	21190	21680	21690	21800	21830	22070	22110	23470	24140	22980	22300	21750
3	21180	21680	21720	21800	21850	22070	23180	23340	23800	22960	22290	21750
4	21110	21680	21740	21800	21870	22070	23260	23240	23810	22950	22260	21810
5	21110	21660	21750	21800	21960	22040	23220	23180	23770	22910	22250	22130
6	21100	21660	21780	21800	22010	22040	23180	23160	23610	22880	22210	22170
7	21070	21660	21770	21800	22020	22020	23130	23120	23460	22870	22200	22170
8	21070	21660	21770	21790	22010	22040	23100	23090	23560	22850	22180	22170
9	21070	21660	21770	21790	22010	22070	23070	23110	23500	22840	22150	22170
10	21060	21650	21770	21790	22010	22070	23050	23130	23390	22800	22150	22130
11	21050	21650	21770	21790	22020	22080	23020	23120	23510	22780	22140	22130
12	21060	21630	21770	21790	22020	22100	23020	23100	23410	22750	22110	22100
13	21060	21630	21770	21790	22050	22120	23010	23080	23330	22730	22090	22080
14	21140	21630	21770	21790	22050	22120	22970	23110	23270	22700	22060	22070
15	21130	21630	21770	21790	22050	22130	22970	23160	23240	22670	22080	22060
16	21100	21630	21770	21790	22050	22130	22960	23120	23380	22640	22080	22050
17	21110	21610	21770	21790	22050	22130	22950	23160	23350	22610	22060	22040
18	21360	21600	21780	21790	22050	22150	22950	23410	23290	22570	22060	22020
19	21630	21600	21780	21800	22060	22130	24180	23350	23230	22560	22040	22010
20	21650	21590	21780	21830	22060	22130	23790	23270	23200	22640	22010	21990
21	21660	21580	21780	21830	22060	22110	23520	23210	23170	22630	21990	21980
22	21660	21560	21780	21820	22060	22120	23360	23160	23130	22500	21970	21960
23	21660	21540	21780	21810	22060	22110	23270	23130	23110	22460	21950	21950
24	21670	21540	21780	21810	22060	22110	23200	24050	23100	22430	21920	21930
25	21670	21540	21780	21810	22070	22110	23160	23810	23100	22410	21900	21930
26	21670	21560	21780	21800	22070	22110	23100	23580	23100	22370	21860	21910
27	21670	21580	21790	21790	22070	22110	23100	24020	23080	22350	21850	21900
28	21680	21580	21790	21790	22070	22100	23080	23900	23060	22320	21830	21890
29	21680	21610	21790	21780	---	22110	23070	23840	23050	22290	21790	21870
30	21680	21630	21790	21770	---	22090	23500	23790	23000	22260	21760	21840
31	21680	---	21790	21780	---	22090	---	24590	---	22210	21740	---
MAX	21680	21680	21790	21830	22070	22150	24180	24590	24460	22990	22300	22170
MIN	21050	21540	21650	21770	21770	22020	22090	23080	23000	22210	21740	21750
(†)	713.60	713.55	713.70	713.69	713.96	713.98	715.25	716.19	714.81	714.09	713.65	713.75
(‡)	+470	-50	+160	-10	+290	+20	+1410	+1090	-1590	-790	-470	+100

CAL YR 1985	MAX	30180	MIN	21050	(‡)	-750
WTR YR 1986	MAX	24590	MIN	21050	(‡)	+630

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

07316000 RED RIVER NEAR GAINESVILLE, TX

LOCATION.--Lat 33°43'40", long 97°09'35", in SW 1/4 sec.36, T.9 S., R.1 E., Love County, OK, Hydrologic Unit 11130201, on downstream right bank near end of bridge on Interstate 35, 0.2 mi downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 5.0 mi downstream from Fish Creek, 4.5 mi southwest of Thackerville, OK, 7.0 mi north of Gainesville, and at mile 791.5.

DRAINAGE AREA.--30,782 mi^2, of which 5,936 mi^2 probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1936 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 627.91 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 17, 1939, and Feb. 13, 1965 to Nov. 14, 1966, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 1-2, 17-20, Nov. 28, Dec. 10-29, Jan. 7, Feb. 2-7, June 4-8, 10-17, June 20 to July 23, Aug. 15-17, Sept. 14, 16-30. Records poor. Flow slightly regulated by Lake Kemp (station 07312000), since 1943 by Lake Altus (in Oklahoma), since 1946 by Lake Kickapoo (station 07314000), since 1967 by Lake Arrowhead (station 07314800) and Moss Lake (station 07315950).

COOPERATION.--Gage-height record and 6 discharge measurements furnished by U.S. Army Corps of Engineers, records computed by U.S. Geological Survey.

AVERAGE DISCHARGE.--50 years, 2,802 ft^3/s (2,030,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 168,000 ft^3/s June 9, 1941 (gage height, 24.15 ft); maximum gage height, 37.14 ft Oct. 24, 1983; minimum discharge, 48 ft^3/s Jan. 27, 1940.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 24,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 21	1500	*60,400	*21.26	Sept. 7	2400	42,500	18.81

Minimum daily discharge, 288 ft^3/s Aug. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3650	3390	912	1060	513	557	463	844	9220	2690	499	336
2	4700	3250	963	1120	550	541	671	1280	5890	2530	478	513
3	7200	2770	1490	1020	590	517	1200	1280	4330	2400	468	2310
4	6460	2160	1220	898	630	494	1440	1070	4020	2330	410	16400
5	3870	1670	1090	816	670	469	977	1010	8360	2200	405	21500
6	2650	1470	912	729	710	456	859	1240	25300	2150	400	36200
7	1860	1300	884	706	747	512	1330	1070	16300	2500	359	40200
8	1400	1200	797	679	753	713	1490	944	14900	2300	350	31200
9	1030	1120	748	652	753	853	1150	778	12000	2050	350	20400
10	780	1040	729	639	867	916	954	720	8360	1820	394	14900
11	689	993	723	639	973	832	862	892	7270	1610	439	11900
12	644	948	723	626	986	801	1010	1680	8630	1430	504	11000
13	1360	912	723	639	981	922	1050	1960	12000	1280	463	12700
14	9430	870	723	620	953	824	982	2360	12900	1220	389	12500
15	6140	823	723	620	903	817	669	2560	14300	1170	379	10500
16	5870	810	725	606	872	1500	498	2250	12400	1090	369	11700
17	8530	803	740	606	870	1710	467	1880	14300	1010	364	18700
18	8820	877	800	606	862	1370	453	2190	16700	960	350	14900
19	14800	2350	760	595	849	1290	2000	5280	11400	915	336	15700
20	41000	4330	720	591	866	1390	6650	14200	14900	875	328	12900
21	56600	2900	710	583	877	1260	4640	12900	9700	825	309	11400
22	35600	2330	710	560	888	1510	2880	9810	6400	760	301	9020
23	14700	2150	700	554	928	1180	2000	6810	4000	830	288	8000
24	9840	1830	700	544	924	922	1400	4860	2950	639	345	7300
25	7210	1430	700	537	830	733	1120	6740	2700	645	434	6500
26	5930	1240	695	521	736	638	954	3740	2600	660	390	6000
27	5270	1480	695	510	663	572	759	3310	2480	796	333	5800
28	4650	1220	740	515	596	528	629	9730	2350	958	340	5700
29	4350	1000	850	526	---	491	526	17200	2630	948	313	5300
30	3800	897	941	515	---	446	564	13900	2850	778	318	4880
31	3370	---	1100	506	---	416	---	11100	---	578	328	---
TOTAL	282203	49563	25646	20338	22340	26180	40647	145588	272140	42947	11733	386359
MEAN	9103	1652	827	656	798	845	1355	4696	9071	1385	378	12880
MAX	56600	4330	1490	1120	986	1710	6650	17200	25300	2690	504	40200
MIN	644	803	695	506	513	416	453	720	2350	578	288	336
AC-FT	559700	98310	50870	40340	44310	51930	80620	288800	539800	85190	23270	766300

CAL YR 1985	TOTAL	2195171	MEAN	6014	MAX	73700	MIN	644	AC-FT 4354000
WTR YR 1986	TOTAL	1325684	MEAN	3632	MAX	56600	MIN	288	AC-FT 2629000

07316000 RED RIVER NEAR GAINESVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: May 1944 to April 1946, October 1952 to September 1964, October 1966 to current year. Chemical and biochemical analyses: January 1968 to September 1986. Pesticide analyses: April 1978 to September 1982.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1944 to April 1946, October 1952 to September 1964, October 1966 to current year.
WATER TEMPERATURES: October 1952 to September 1963, October 1966 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 11,100 microsiemens July 16, 1972, and June 19, 1984; minimum daily, 176 microsiemens Nov. 4, 1958.
WATER TEMPERATURES: Maximum daily, 35.0°C on several days during summer months; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 8,390 microsiemens Feb. 25; minimum daily, 653 microsiemens June 7.
WATER TEMPERATURES: Maximum daily, 35.0°C Aug. 7, 11, 18; minimum daily, 2.0°C Dec. 14, 15.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
DEC 03...	1630	1310	4700	8.00	3.5	140	13.1	--	1.4	K700	870	830
JAN 14...	1700	627	5700	8.50	8.5	4.5	13.8	--	3.0	K3	K3	1000
APR 14...	1830	990	3350	8.50	20.5	40	11.4	130	5.4	K19	K44	620
JUN 03...	1735	4350	1920	7.80	24.5	430	7.6	93	1.6	2400	1900	350
JUL 22...	1545	720	4170	8.20	30.5	--	7.8	--	3.3	--	K12	770
SEP 09...	1500	20400	940	7.70	24.0	680	6.6	80	2.0	K4200	K2200	170

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
DEC 03...	620	220	68	710	11	6.8	214	560	1200	0.4	10	2890
JAN 14...	790	260	87	910	13	7.1	222	730	1500	0.4	4.8	3670
APR 14...	460	150	60	470	8	6.3	164	390	690	0.4	1.5	1940
JUN 03...	240	100	24	250	6	7.1	107	250	400	0.3	8.8	1150
JUL 22...	620	200	64	610	10	9.3	148	490	1000	0.4	8.4	2600
SEP 09...	93	50	11	120	4	5.5	77	99	190	0.3	10	552

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4)
DEC 03...	2900	0.63	0.01	0.64	0.13	0.14	0.77	0.9	0.26	0.14	0.12	0.37
JAN 14...	3600	0.09	0.01	0.10	0.06	0.08	0.74	0.8	0.14	0.07	0.06	0.18
APR 14...	1900	--	<0.01	<0.10	0.09	0.07	0.71	0.8	0.15	0.02	<0.01	--
JUN 03...	1100	--	<0.01	0.46	0.03	0.05	1.2	1.2	0.52	0.10	0.07	0.21
JUL 22...	2500	--	<0.01	<0.10	0.10	0.08	0.6	0.7	0.11	0.02	0.02	0.06
SEP 09...	530	0.69	0.02	0.71	0.05	0.04	0.55	0.6	0.17	0.10	0.09	0.28

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
DEC 03...	244	863	96	20	3	200	<10	1	<1	<1	1	60
JAN 14...	51	86	31	--	--	--	--	--	--	--	--	--
APR 14...	122	326	89	20	2	200	<10	1	1	3	4	<10
JUN 03...	1090	12800	79	--	--	--	--	--	--	--	--	--
JUL 22...	71	138	99	20	5	300	<10	<1	<1	<1	1	30
SEP 09...	2940	162000	59	--	--	--	--	--	--	--	--	--

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC 03...	2	20	20	0.1	2	3	2	<1	2500	23	20
JAN 14...	--	--	--	--	--	--	--	--	--	--	--
APR 14...	2	30	20	<0.1	2	<1	1	<1	2000	10	10
JUN 03...	--	--	--	--	--	--	--	--	--	--	--
JUL 22...	<5	40	10	--	2	2	<1	<1	2500	33	180
SEP 09...	--	--	--	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	282203	1700	1000	763000	400	305900	200	153500	320
NOV. 1985	49563	3690	2190	293000	890	118600	440	58700	680
DEC. 1985	25646	4970	3000	208000	1200	85500	600	41400	890
JAN. 1986	20338	5410	3280	180000	1400	74500	650	35800	960
FEB. 1986	22340	5670	3460	209000	1400	86900	690	41400	990
MAR. 1986	26180	4240	2550	180000	1000	74100	510	35900	760
APR. 1986	40647	2510	1470	161000	590	64600	300	32500	470
MAY 1986	145588	1770	1030	403000	410	160100	210	81600	330
JUNE 1986	272140	1540	895	658000	350	260100	180	133100	290
JULY 1986	42947	4030	2400	278000	970	113000	480	55600	730
AUG. 1986	11733	4540	2730	86500	1100	35500	540	17300	810
SEPT 1986	386359	1880	1090	1139E3	430	452100	220	230100	360
TOTAL	1325684	**	**	4558000	**	1831000	**	917000	**
WTD.AVG.	3632	2160	1270	**	510	**	260	**	400

07316000 RED RIVER NEAR GAINESVILLE, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7440	3040	4610	4740	5800	7980	5190	3080	1240	4230	3560	5590
2	5090	2970	4340	4710	5810	7900	5600	3120	1410	4140	3440	6160
3	2130	3430	3690	4790	5250	7610	4670	3600	1540	3870	3260	4660
4	1730	3610	3710	4760	4620	7690	2410	3610	1710	3630	4160	3390
5	1690	3800	3840	4900	4500	7540	2750	3520	1080	3800	4040	2720
6	1650	3970	4640	5160	3690	7360	2960	3120	857	3840	3780	1620
7	2610	3940	4570	5100	4510	7000	2490	3270	653	2990	3460	1070
8	2890	4170	5020	5270	4790	7030	2410	3240	983	3740	2720	970
9	3140	4320	4740	5390	4910	6680	2750	3340	2650	3850	2490	968
10	3380	4490	4470	5620	4950	4460	3170	3600	3180	3310	2360	1180
11	3780	4670	4620	5690	5170	4190	3120	3530	3580	3280	4580	1740
12	3800	4690	4890	5770	5010	3990	3270	3400	2150	3290	4720	2000
13	3860	4670	5030	5880	4630	4050	3490	3380	1560	3700	4910	1750
14	5520	5020	5110	5700	4210	4010	3350	3360	1300	4660	4960	1660
15	5160	5050	5300	5660	4330	4070	3320	3440	1020	4460	4090	1980
16	4450	5100	5440	5840	4360	3510	3120	3210	2260	4470	4600	2120
17	3860	5120	5420	5620	4750	3120	3570	3080	1010	4850	4840	1150
18	2170	5140	5370	5720	4890	2170	4750	3120	985	5040	4420	1020
19	1140	4540	5190	5560	5340	2560	3430	2240	1030	5280	4880	1340
20	806	3530	5130	5760	5740	2800	1400	920	1340	4150	5190	2010
21	760	3600	5220	5690	6840	3120	1310	890	1350	3970	4810	2510
22	740	3350	5250	5850	7260	3270	1590	2400	1380	4120	4740	2560
23	746	3100	5440	5860	7470	2720	1730	2260	1310	4300	4630	2390
24	891	2760	5780	5670	7790	2750	2390	1640	1770	4360	4800	2480
25	1120	2590	6040	5650	8390	3270	2910	1240	1820	4760	5150	2580
26	1520	2870	6020	5660	8230	3670	3150	2950	2670	4830	5290	2940
27	1770	2560	6130	5060	8150	4170	3010	3000	2930	4860	5760	3450
28	2170	3490	6180	5790	8050	4860	3050	1040	4870	4740	7150	3920
29	2360	3890	6510	5800	---	5220	3310	906	4320	5250	7310	4360
30	2640	4290	4950	5820	---	5330	3410	1310	4480	4510	6580	4450
31	2830	---	4770	5740	---	5320	---	1280	---	3590	6390	---
MEAN	2700	3930	5080	5490	5690	4820	3100	2650	1950	4190	4620	2570

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	15.0	5.0	8.0	15.0	---	20.0	20.0	23.0	30.0	33.0	23.0
2	16.0	14.0	3.0	8.0	16.0	13.0	21.0	22.0	26.0	30.0	28.0	26.0
3	18.0	---	5.0	6.0	17.0	17.0	20.0	21.0	26.0	28.0	30.0	27.0
4	16.0	15.0	7.0	7.0	18.0	17.0	22.0	22.0	27.0	28.0	31.0	25.0
5	16.0	---	8.0	6.0	12.0	17.0	23.0	22.0	26.0	29.0	34.0	24.0
6	15.0	16.0	9.0	7.0	10.0	18.0	22.0	26.0	21.0	27.0	34.0	24.0
7	20.0	15.0	8.0	5.0	9.0	17.0	26.0	23.0	27.0	30.0	35.0	---
8	20.0	15.0	8.0	4.0	---	18.5	23.0	25.0	28.0	32.0	30.0	24.0
9	22.0	15.0	14.0	5.0	4.0	20.0	19.0	22.0	29.0	33.0	29.0	25.0
10	20.0	15.0	10.0	8.0	3.0	20.0	17.0	21.0	30.0	31.0	27.0	26.0
11	21.0	11.0	6.0	6.0	4.0	18.0	17.0	---	29.0	29.0	35.0	26.0
12	---	---	4.0	6.0	4.0	19.0	19.0	27.0	30.0	28.0	32.0	24.0
13	22.0	19.0	3.0	9.0	4.0	19.0	19.0	28.0	29.0	28.0	33.0	25.0
14	21.0	20.0	2.0	9.0	9.0	20.0	19.0	26.0	28.0	30.0	29.0	24.0
15	20.0	12.0	2.0	10.0	9.0	19.0	19.0	27.0	27.0	31.0	30.0	27.0
16	20.0	11.0	5.0	11.0	10.0	17.0	21.0	27.0	26.0	30.0	33.0	26.0
17	20.0	12.0	6.0	14.0	13.0	17.0	19.0	27.0	27.0	30.0	32.0	27.0
18	20.0	19.0	5.0	15.0	17.0	19.0	18.0	19.0	28.0	29.0	35.0	26.0
19	20.0	16.0	5.0	10.0	18.0	16.0	---	23.0	28.0	30.0	33.0	27.0
20	20.0	12.0	4.0	12.0	15.0	14.0	17.0	23.0	29.0	30.0	34.0	28.0
21	19.0	9.0	6.0	12.0	11.0	15.0	19.0	24.0	28.0	29.0	31.0	27.0
22	20.0	10.0	5.0	11.0	9.0	16.0	19.0	25.0	29.0	28.0	29.0	28.0
23	21.0	11.0	9.0	10.0	10.0	18.0	20.0	27.0	33.0	30.0	28.0	29.0
24	22.0	10.0	9.0	10.0	16.0	19.0	20.0	24.0	31.0	33.0	29.0	28.0
25	22.0	10.0	7.0	9.0	16.0	19.0	24.0	22.0	33.0	33.0	31.0	26.0
26	22.0	10.0	7.0	7.0	19.0	20.0	22.0	27.0	33.0	31.0	30.0	26.0
27	20.0	---	7.0	7.0	15.0	22.0	22.0	25.0	29.0	30.0	28.0	27.0
28	19.0	7.0	6.0	9.0	13.0	24.0	23.0	25.0	33.0	34.0	29.0	27.0
29	17.0	9.0	5.0	10.0	---	21.0	24.0	25.0	30.0	34.0	28.0	28.0
30	16.0	8.0	8.0	11.0	---	23.0	22.0	25.0	32.0	34.0	27.0	27.0
31	15.0	---	---	15.0	---	23.0	---	24.0	---	34.0	24.0	---
MEAN	19.5	13.0	6.5	9.0	11.5	18.5	20.5	24.0	28.5	30.5	30.5	26.0

07331500 LAKE TEXOMA NEAR DENISON, TX

LOCATION.--Lat 33°49'05", long 96°34'20", in NE 1/4 sec.33, T.8 S., R.7 E., Bryan County, OK, Hydrologic Unit 11130210, in control tower of Denison Dam on the Red River, 1.2 mi upstream from Shawnee Creek, 1.8 mi upstream from Sand Creek 4.0 mi northwest of Denison, 6.0 mi southwest of Colbert, and at mile 725.9.

DRAINAGE AREA.--39,719 mi², of which 5,936 mi² is probably noncontributing.

PERIOD OF RECORD.--July 1942 to current year. Monthend contents only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929. Prior to Mar. 30, 1944, nonrecording gage at same site and datum. Prior to Oct. 1, 1948, supplementary nonrecording gage in Cumberland pool at the same datum.

REMARKS.--The lake is formed by a rolled earthfill dam. The controlled outlet consists of eight 20-foot-diameter condui and the uncontrolled outlet is a concrete, ogee-type weir spillway. Flow was diverted through conduits July 27, 1942 regulated storage began Oct. 31, 1943; power pool was first filled Mar. 15, 1945. Capacity is based on a 1969 survey at elevation 640.0 ft (capacity, 5,312,000 acre-ft), crest of spillway, 2,643,000 acre-ft at elevation 617.0 ft, maximum power pool; 1,031,000 acre-ft at elevation 590.0 ft, minimum power pool in Denison pool. Dead storage, 11,00 acre-ft at elevation 610.0 ft, in Cumberland pool. When contents are below 2,105,000 acre-ft, the reservoir is divided into two pools by protective levees around the Cumberland oilfield on the Washita River arm with bottom outle channel for the upper pool (known as Cumberland pool) at elevation 610.0 ft. At higher elevations, the two pools are considered as being at a common level, contents being computed from gage in Denison pool. Figures given herein represent total contents of both pools. The lake is used principally for flood control and for power development. A revised capacity table, based on a survey in 1969, has been used since Oct. 1, 1977.

COOPERATION.--Records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 5,991,300 acre-ft June 5, 1957 (elevation, 643.18 ft). Minimum contents since power pool was first filled, 1,565,100 acre-ft Sept. 16, 1964; minimum elevation, 599.96 ft Mar. 1, 2, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,811,000 acre-ft June 7, 8, 19 (elevation, 618.84 ft); minimum, 2,328,000 acre-ft Oct. 2 (elevation, 613.07 ft).

Capacity table (elevation, in feet, and contents, in acre-ft)

610	2,105,000	622	3,117,000
614	2,399,000	627	3,649,000
617	2,643,000	632	4,240,000

RESERVOIR STORAGE, (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
2400-HR VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2329000	2782000	2557000	2546000	2510000	2568000	2580000	2624000	2729000	2670000	2472000	2338000
2	2329000	2770000	2546000	2546000	2521000	2571000	2578000	2615000	2730000	2666000	2465000	2335000
3	2338000	2757000	2546000	2543000	2536000	2570000	2614000	2602000	2730000	2651000	2456000	2335000
4	2352000	2742000	2550000	2542000	2539000	2570000	2635000	2590000	2752000	2642000	2450000	2354000
5	2361000	2722000	2549000	2538000	2557000	2569000	2629000	2578000	2779000	2630000	2441000	2387000
6	2368000	2717000	2548000	2532000	2569000	2569000	2618000	2576000	2798000	2621000	2435000	2450000
7	2374000	2704000	2548000	2529000	2572000	2568000	2611000	2572000	2811000	2613000	2429000	2527000
8	2376000	2692000	2548000	2522000	2568000	2565000	2610000	2567000	2807000	2611000	2423000	2582000
9	2380000	2692000	2548000	2518000	2566000	2568000	2604000	2582000	2796000	2607000	2416000	2615000
10	2382000	2692000	2554000	2517000	2565000	2574000	2597000	2582000	2786000	2600000	2412000	2632000
11	2378000	2680000	2546000	2518000	2559000	2578000	2591000	2585000	2776000	2594000	2404000	2643000
12	2374000	2670000	2548000	2522000	2557000	2578000	2585000	2584000	2762000	2588000	2399000	2649000
13	2372000	2660000	2541000	2521000	2553000	2581000	2578000	2585000	2754000	2582000	2391000	2653000
14	2380000	2660000	2536000	2521000	2558000	2582000	2571000	2583000	2754000	2575000	2383000	2660000
15	2388000	2636000	2535000	2518000	2560000	2584000	2565000	2601000	2752000	2567000	2381000	2664000
16	2397000	2619000	2534000	2519000	2565000	2586000	2560000	2609000	2777000	2560000	2380000	2665000
17	2411000	2604000	2533000	2520000	2566000	2584000	2554000	2636000	2792000	2555000	2375000	2675000
18	2449000	2600000	2532000	2524000	2568000	2597000	2561000	2663000	2807000	2550000	2371000	2682000
19	2494000	2601000	2532000	2525000	2571000	2584000	2658000	2674000	2811000	2550000	2367000	2686000
20	2565000	2594000	2530000	2525000	2578000	2578000	2677000	2692000	2805000	2551000	2363000	2690000
21	2663000	2592000	2529000	2527000	2573000	2573000	2688000	2714000	2794000	2545000	2361000	2689000
22	2750000	2586000	2531000	2521000	2572000	2576000	2688000	2726000	2774000	2542000	2358000	2689000
23	2784000	2583000	2538000	2515000	2576000	2582000	2682000	2731000	2751000	2535000	2357000	2680000
24	2797000	2575000	2539000	2514000	2573000	2580000	2682000	2728000	2734000	2529000	2357000	2665000
25	2802000	2564000	2534000	2514000	2576000	2574000	2672000	2727000	2717000	2522000	2353000	2654000
26	2802000	2566000	2533000	2515000	2580000	2577000	2656000	2722000	2709000	2517000	2349000	2642000
27	2798000	2572000	2531000	2506000	2580000	2577000	2643000	2714000	2700000	2509000	2347000	2639000
28	2796000	2565000	2534000	2509000	2572000	2576000	2625000	2706000	2690000	2502000	2340000	2639000
29	2810000	2557000	2538000	2507000	---	2578000	2613000	2709000	2683000	2497000	2338000	2632000
30	2804000	2566000	2542000	2506000	---	2578000	2615000	2715000	2674000	2490000	2337000	2629000
31	2793000	---	2544000	2506000	---	2581000	---	2718000	---	2483000	2335000	---
MAX	2810000	2782000	2557000	2546000	2580000	2597000	2688000	2731000	2811000	2670000	2472000	2690000
MIN	2329000	2557000	2529000	2506000	2510000	2565000	2554000	2567000	2674000	2483000	2335000	2335000
(†)	618.65	616.11	615.84	615.37	616.17	616.28	616.67	617.84	617.35	615.08	613.19	616.84
(‡)	+464000	-227000	-22000	-38000	+66000	+9000	+34000	+103000	-44000	-191000	-148000	+294000

CAL YR 1985 MAX 3414000 MIN 2319000 (‡) -150000
WTR YR 1986 MAX 2811000 MIN 2329000 (‡) +300000

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX
(National Stream-Quality Accounting Network)

LOCATION.--Lat 33°49'08", long 96°33'47", Grayson County, Hydrologic Unit 11140101, on right bank 1,800 ft downstream from Denison Dam powerhouse, 0.4 mi upstream from Shawnee Creek (spillway flow return), 4.5 mi north of Denison, and at mile 725.5.

DRAINAGE AREA.--39,720 mi², of which 5,936 mi² is probably noncontributing. At site used prior to October 1961, drainage area was 39,777 mi², of which 5,936 mi² probably was noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1934, published as "near Denison, TX", and October 1934 to September 1961, published as "near Colbert, OK". Gage-height records collected at various sites in this vicinity 1892-93, 1906-28, 1931-49 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 807: 1935 (M). WSP 1211: Drainage area. WSP 1241: 1924-29, 1932-33, 1934 (M), 1935.

GAGE.--Water-stage recorder. Datum of gage is 500.00 ft above National Geodetic Vertical Datum of 1929. Oct. 9, 1923, to Sept. 24, 1934, nonrecording gage, and July 29, 1942, to Sept. 30, 1961, water-stage recorder, at county road bridge 2.5 mi downstream. Prior to Oct. 1, 1931, at datum 6.85 ft higher; Oct. 1, 1931 to Sept 24, 1934, at datum 7.07 ft higher; and July 29, 1942, to Sept. 30, 1961, at datum 2.64 ft lower; Sept. 25, 1934, to July 28, 1942, water-stage recorder at railway bridge 1.9 mi downstream at datum 7.36 ft higher.

REMARKS.--Estimated daily discharges: Nov. 8, Jan. 20-27, Feb. 6, Mar. 31 to Apr. 13, and May 10. Records good. Flow regulated since October 1943 by Lake Texoma (station 07331500).

COOPERATION.--Gage-height record and 4 discharge measurements furnished by U.S. Army Corps of Engineers; records computed by U.S. Geological Survey.

AVERAGE DISCHARGE.--20 years (water years 1924-43) prior to regulation by Denison Dam, 5,684 ft³/s (4,118,000 acre-ft/yr; 42 years (water years 1945-86) since regulation by Denison Dam, 4,448 ft³/s, 3,223,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 201,000 ft³/s May 21, 1935 (gage height, 31.8 ft), at site and datum then in use; maximum gage height, 32.0 ft Apr. 25, 1942 (at site and datum used in 1943); minimum daily discharge, 12 ft³/s Jan. 10, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 26, 1908, reached a stage of 45.5 ft (at site and datum used July 29, 1942 to Sept. 30, 1961); from record of National Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,000 ft³/s June 9 (gage height, 10.31 ft); minimum daily, 69 ft³/s Aug. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	9310	4140	76	88	1540	1930	5890	10300	6300	4010	79
2	82	9320	5110	2980	82	1100	1760	6330	10300	5660	3400	1500
3	[illegible]	9310	2890	2820	1440	1390	1530	6550	10400	6030	3400	1500
4	80	9330	1810	2870	1810	1320	4840	7020	10500	5430	3180	1530
5	81	9360	1750	2960	1500	1460	8270	7040	10600	5310	3210	2630
6	81	6570	2740	3260	1600	95	8360	3950	10200	5680	2740	161
7	77	3250	1800	4220	2730	1560	6350	2750	13100	5700	2810	79
8	1200	5230	1790	4260	2570	892	5560	3800	16900	3800	2810	4390
9	1330	3660	1780	3040	2690	225	5580	2470	16900	3810	2820	5910
10	1520	3020	2830	1920	2970	1010	5570	2250	15400	3820	2780	5840
11	2740	5520	4280	85	3390	1130	5560	2050	13500	3810	3570	5800
12	2810	6170	3010	85	1920	1070	5580	2400	13500	3810	3190	5840
13	1810	6180	3150	1660	1490	2510	5540	2400	12500	3740	3100	5850
14	1410	6080	2170	1660	1450	2460	5540	2860	10300	3810	3060	5850
15	1370	8360	4140	1670	101	2530	3990	2850	10200	3800	3080	6060
16	1350	8360	2950	1650	91	190	3220	5260	10400	3780	1210	6720
17	2420	8360	2570	1470	1460	3150	1760	5530	10300	3190	2570	6840
18	4690	8410	1770	74	1430	3190	1730	5510	10200	3030	1960	7410
19	8690	6310	1780	71	96	5380	2200	6080	12000	163	1860	7400
20	8500	5790	1760	1800	83	5420	1340	7840	16000	78	1930	7380
21	9140	5940	1740	1820	2170	3250	3210	7820	16000	2920	469	7380
22	9460	5930	1960	3580	1660	195	5400	7070	16000	3010	1150	7380
23	9410	5920	2700	3840	648	75	5400	10400	16000	2790	92	9980
24	9400	5950	76	2160	1430	3210	5410	10400	13400	3000	69	9980
25	9370	5950	79	2080	90	3140	5910	10400	10200	3000	1490	9980
26	9360	5300	4190	1520	643	1780	9240	10400	7640	2960	1540	9980
27	9340	5020	1800	2210	1740	1410	9270	10400	6890	2980	1500	5740
28	9320	5050	80	72	2460	952	8380	10400	6040	3170	1550	5020
29	9490	5080	78	1400	---	92	6320	10400	6050	3010	114	5080
30	9290	5030	1710	1100	---	72	5740	10400	6800	2470	78	5070
31	9310	---	82	1170	---	1820	---	10400	---	3170	77	---
TOTAL	143296	193070	68715	59583	39832	53618	150390	199320	348520	113231	64819	164359
MEAN	4622	6436	2217	1922	1423	1730	5013	6430	11620	3653	2091	5479
MAX	9490	9360	5110	4260	3390	5420	9270	10400	16900	6300	4010	9980
MIN	77	3020	76	71	82	72	1340	2050	6040	78	69	79
AC-FT	284200	383000	136300	118200	79010	106400	298300	395400	691300	224600	128600	326000

CAL YR 1985 TOTAL 3602697 MEAN 9870 MAX 45900 MIN 72 AC-FT 7146000
WTR YR 1986 TOTAL 1598753 MEAN 4380 MAX 16900 MIN 69 AC-FT 3171000

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: May 1944 to current year. Chemical and biochemical analyses: October 1974 to September 1986.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1944 to current year.
WATER TEMPERATURES: October 1945 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 3,520 microsiemens Aug. 14, 1944; minimum daily, 656 microsiemens Oct. 16, 1945.
WATER TEMPERATURES (1945-69): Maximum daily, 31.0°C July 17, 1969; minimum daily, 3.0°C Feb. 2-4, 7, 1966.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,730 microsiemens Sept. 18; minimum daily, 1,200 microsiemens on several days during October.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
DEC 03...	1445	2890	1370	8.20	12.0	3.3	10.8	103	0.8	K4	K3	290
JAN 14...	1430	1660	1380	8.40	10.5	2.0	15.9	144	1.5	K1	K1	280
APR 14...	1450	5540	1530	8.20	16.5	1.0	10.5	109	1.4	K2	K13	320
JUN 03...	1515	10400	1490	8.10	21.0	2.7	7.1	81	1.0	46	410	330
JUL 22...	1415	3010	1470	7.70	24.0	--	3.0	37	1.1	--	350	320
SEP 09...	1320	5910	1480	7.80	25.5	2.0	5.7	71	1.0	K4700	K4100	300

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
DEC 03...	170	76	24	170	5	5.3	115	160	270	0.3	1.4	790
JAN 14...	170	74	23	170	5	5.5	112	180	280	0.3	2.3	825
APR 14...	190	83	26	180	5	4.8	128	200	290	0.3	3.2	890
JUN 03...	200	87	27	170	4	4.9	133	180	270	0.3	2.3	868
JUL 22...	190	83	27	180	5	4.7	128	170	270	0.3	4.6	873
SEP 09...	180	77	25	180	5	5.3	117	180	280	0.3	4.8	887

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	SEDI-MENT, SUS-PENDED (MG/L)
DEC 03...	780	<0.01	0.26	0.04	0.04	0.46	0.5	0.03	0.02	0.02	0.06	5
JAN 14...	800	<0.01	0.25	0.03	0.05	0.57	0.6	0.03	0.02	0.02	0.06	3
APR 14...	870	<0.01	0.20	0.10	0.08	0.3	0.4	<0.01	0.02	<0.01	--	6
JUN 03...	820	<0.01	0.20	0.06	0.06	0.34	0.4	0.02	<0.01	<0.01	--	18
JUL 22...	820	0.02	<0.10	0.13	0.11	0.37	0.5	0.06	0.03	0.03	0.09	16
SEP 09...	820	0.03	<0.10	0.14	0.14	0.46	0.6	0.06	0.04	0.03	0.09	12

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
DEC											
03...	39	88	20	1	150	0.5	<1	<1	<3	<1	5
JAN											
14...	13	77	--	--	--	--	--	--	--	--	--
APR											
14...	90	86	10	1	140	2	1	1	<3	1	5
JUN											
03...	505	95	--	--	--	--	--	--	--	--	--
JUL											
22...	130	99	20	3	140	0.9	3	<1	<3	1	6
SEP											
09...	191	96	--	--	--	--	--	--	--	--	--

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC											
03...	1	16	3	0.2	<10	<1	<1	<1	950	<6	12
JAN											
14...	--	--	--	--	--	--	--	--	--	--	--
APR											
14...	1	21	2	0.1	<10	1	<1	<1	920	<6	16
JUN											
03...	--	--	--	--	--	--	--	--	--	--	--
JUL											
22...	<5	19	160	<0.1	<10	2	<1	<1	950	<6	23
SEP											
09...	--	--	--	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	143296	1370	783	303000	270	103700	180	69800	310
NOV. 1985	193070	1320	753	392000	260	134200	170	90300	300
DEC. 1985	68715	1380	789	146000	270	50000	180	33700	310
JAN. 1986	59583	1490	857	138000	290	47200	200	31900	330
FEB. 1986	39832	1520	873	93900	300	32200	200	21700	330
MAR. 1986	53618	1540	883	128000	300	43800	200	29600	340
APR. 1986	150390	1520	871	354000	300	121100	200	81700	330
MAY 1986	199320	1510	869	468000	300	160100	200	108000	330
JUNE 1986	348520	1550	891	838000	310	287200	210	193800	340
JULY 1986	113231	1560	895	274000	310	93700	210	63300	340
AUG. 1986	64819	1570	904	158000	310	54200	210	36600	340
SEPT 1986	164359	1610	927	411000	320	141000	210	95200	350
TOTAL	1598753	**	**	3704000	**	1268000	**	856000	**
WTD.AVG.	4380	1500	858	**	290	**	200	**	330

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1200	1300	1350	1400	1530	1510	1540	1520	1500	1560	1580	1570
2	1200	1300	1360	1410	1530	1520	1540	1500	1500	1560	1570	1550
3	1200	1300	1370	1430	1530	1520	1530	1500	1500	1560	1570	1550
4	1200	1300	1390	1430	1540	1510	1510	1500	1530	1540	1570	1530
5	1200	1300	1390	1440	1530	1510	1510	1500	1550	1540	1570	1510
6	1200	1300	1390	1440	1510	1510	1510	1510	1570	1520	1570	1510
7	1200	1300	1380	1430	1530	1520	1510	1520	1570	1520	1570	1500
8	1200	1310	1380	1430	1530	1530	1510	1510	1570	1580	1570	1490
9	1200	1310	1380	1440	1530	1530	1500	1530	1570	1580	1570	1490
10	1200	1310	1380	1440	1530	1540	1510	1530	1570	1580	1570	1510
11	1200	1320	1410	1440	1530	1540	1510	1530	1530	1590	1570	1500
12	1200	1320	1380	1440	1530	1550	1510	1530	1540	1590	1580	1500
13	1210	1320	1370	1440	1520	1530	1520	1530	1580	1580	1580	1510
14	1210	1320	1370	1450	1510	1530	1520	1520	1570	1580	1580	1510
15	1210	1320	1360	1460	1510	1530	1530	1520	1570	1580	1520	1520
16	1200	1330	1360	1500	1510	1530	1560	1540	1570	1590	1550	1600
17	1200	1330	1360	1550	1510	1530	1560	1520	1550	1500	1550	1710
18	1450	1330	1400	1600	1510	1530	1540	1510	1550	1590	1570	1730
19	1400	1330	1400	1600	1510	1540	1540	1500	1540	1580	1580	1700
20	1400	1340	1390	1650	1510	1540	1540	1510	1540	1580	1580	1700
21	1350	1340	1390	1680	1510	1550	1540	1510	1550	1580	1580	1650
22	1380	1340	1390	1610	1520	1550	1530	1530	1550	1470	1570	1610
23	1410	1340	1390	1530	1520	1550	1530	1520	1560	1480	1570	1620
24	1490	1340	1390	1560	1520	1550	1530	1520	1550	1580	1570	1640
25	1510	1340	1390	1570	1520	1560	1530	1520	1550	1580	1580	1670
26	1500	1350	1400	1570	1500	1560	1520	1520	1530	1580	1610	1670
27	1450	1350	1400	1580	1500	1550	1510	1520	1540	1580	1580	1650
28	1410	1350	1390	1530	1500	1560	1500	1510	1540	1580	1580	1630
29	1270	1350	1390	1530	---	1560	1500	1510	1550	1500	1570	1620
30	1280	1350	1480	1540	---	1560	1480	1500	1550	1570	1570	1610
31	1300	---	1390	1530	---	1550	---	1500	---	1500	1570	---
MEAN	1290	1320	1390	1500	1520	1540	1520	1520	1550	1560	1570	1590

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0		---	---	---	---	---	22.0	---	23.0	22.0	---
2	22.0		14.0	9.0	---	---	---	18.0	22.0	24.0	23.0	---
3	22.0		14.0	9.0	10.0	11.0	13.0	---	23.0	24.0	23.0	---
4	22.0		14.0	---	10.0	11.0	14.0	---	22.0	---	---	---
5	---		14.0	---	10.0	11.0	---	18.0	22.0	---	22.0	---
6	---		14.0	9.0	9.0	10.0	---	18.0	22.0	---	23.0	---
7	21.0		---	9.0	10.0	10.0	16.0	18.0	---	24.0	---	---
8	21.0		---	10.0	---	---	14.0	18.0	---	24.0	---	---
9	21.0		14.0	8.0	---	---	15.0	18.0	---	25.0	---	25.0
10	21.0		14.0	8.0	10.0	10.0	16.0	---	23.0	25.0	---	25.0
11	---		14.0	---	9.0	10.0	---	---	23.0	25.0	22.0	25.0
12	---		13.0	---	9.0	10.0	---	18.0	23.0	---	22.0	26.0
13	---		13.0	10.0	9.0	11.0	---	18.0	23.0	---	22.0	---
14	---		---	9.0	8.0	11.0	15.0	19.0	---	---	22.0	---
15	21.0		---	9.0	---	---	16.0	19.0	---	25.0	26.0	25.0
16	21.0		---	9.0	---	---	16.0	20.0	23.0	25.0	---	25.0
17	21.0		15.0	15.0	---	11.0	15.0	---	22.0	22.0	---	25.0
18	21.0		15.0	---	8.0	---	15.0	---	23.0	22.0	22.0	25.0
19	---		---	---	8.0	12.0	---	20.0	---	---	22.0	---
20	---		15.0	---	8.0	12.0	---	21.0	23.0	---	25.0	---
21	21.0		---	9.0	9.0	12.0	17.0	21.0	---	21.0	22.0	---
22	---		---	14.0	---	---	17.0	21.0	---	21.0	22.0	26.0
23	21.0		15.0	16.0	---	---	---	---	23.0	25.0	---	26.0
24	21.0		15.0	8.0	10.0	12.0	---	---	23.0	21.0	---	26.0
25	21.0		---	---	9.0	12.0	18.0	---	23.0	---	22.0	25.0
26	---		9.0	---	9.0	12.0	---	---	23.0	---	22.0	25.0
27	---		9.0	8.0	10.0	13.0	---	23.0	---	---	22.0	---
28	21.0		---	8.0	9.0	13.0	18.0	21.0	---	21.0	---	---
29	21.0		14.0	8.0	---	---	---	21.0	---	25.0	---	26.0
30	21.0		10.0	8.0	---	---	18.0	22.0	23.0	22.0	---	26.0
31	20.0		9.0	8.0	---	13.0	---	---	---	25.0	---	---
MEAN	21.0		13.0	9.5	9.0	11.5	16.0	19.5	22.5	23.5	22.5	25.5

07335390 PAT MAYSE LAKE NEAR CHICOTA, TX

LOCATION.--Lat 33°51'10", long 93°32'38", Lamar County, Hydrologic Unit 11140101, on upstream side of dam on Sanders Creek, 2,800 ft to right of outlet channel, 2.0 mi southeast of Chicota, and 4.6 mi upstream from mouth.

DRAINAGE AREA.--175 mi².

PERIOD OF RECORD.--October 1967 to current year. Prior to October 1970, published as Pat Mayse Reservoir.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 10, 1968, nonrecording gage at present site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam about 7,080 ft long, including a spillway 100 ft wide located near the right abutment of dam. The dam was completed and deliberate impoundment began Sept. 28, 1967. The flood-control outlet works consist of an uncontrolled morning-glory-type drop-inlet spillway that is connected to a 7.25-foot-diameter concrete conduit through the dam. A 24- and 12-inch diameter low-flow pipe is provided for additional outlets. The lake was built for flood control, municipal, and industrial water supply, recreation, fish and wildlife conservation, and for channel improvement on Sanders Creek. Water is diverted from the lake for municipal and industrial uses by the city of Paris. Any resultant effluent is discharged into Pine Creek below Lake Crook, which is located in another drainage basin. The capacity table is based on Geological Survey topographic maps dated 1949. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	488.5	-
Crest of spillway	477.0	352,700
Top of flood-control pool	460.5	189,100
Crest of morning-glory drop-inlet spillway (top of conservation pool).	450.6	122,100
Streambed	393.0	0

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 208,000 acre-ft Dec. 11, 12, 1971 (elevation, 462.87 ft); minimum since conservation pool was first reached on Apr. 20, 1968, 100,900 acre-ft Nov. 10, 1978 (elevation, 446.80 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 149,700 acre-ft Feb. 7 (elevation, 454.99 ft); minimum, 114,400 acre-ft Oct. 17 (elevation, 449.28 ft).

Capacity table (elevation, in feet, and contents, in acre-feet)

449.0	112,800	453.0	136,800
451.0	124,500	455.0	149,800

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	115500	117800	133200	128200	124700	130800	126500	128800	133400	133100	123700	119900
2	115400	117700	134000	128000	124800	130500	126500	128800	134200	132500	123500	119800
3	115300	117600	134000	127900	136400	130200	127300	128300	134300	132400	123500	120100
4	115200	117600	133500	127500	144200	129900	129400	128000	134000	132000	123300	120200
5	115000	117600	133100	127500	145700	129600	131200	127900	134100	131400	123100	120800
6	114900	117300	132600	127100	147800	129400	131500	127800	134500	130900	123000	121800
7	114800	117200	132300	127100	149600	128900	131300	127700	134200	130500	122900	121800
8	114600	117200	132000	126900	148300	128800	130900	127500	134000	130200	122700	121800
9	114600	117200	131600	126700	146900	128700	130600	127500	133700	129800	122600	121700
10	114600	117100	131700	126600	145500	128600	130400	127500	133500	129400	122500	121700
11	114500	117200	132800	126500	144200	128700	130000	127500	135400	129000	122400	121600
12	114500	117300	134500	126400	142800	128500	129800	127500	136000	128600	122300	121600
13	114500	117200	134400	126400	141600	128500	129600	127600	135700	128300	122000	121600
14	114600	117600	134000	126200	140400	128200	129200	127500	135100	128000	121900	121600
15	114600	120100	133600	126100	139400	128500	128800	128200	134500	127700	122100	121500
16	114600	122600	133200	126200	138700	128500	128600	128100	135900	127300	122400	121200
17	114900	125600	132800	126000	137900	128400	128200	130000	140400	127100	122300	121200
18	116300	128100	132300	126000	136800	128600	128300	132400	142100	126700	122100	121200
19	116800	129400	131900	125900	136100	128300	129600	133300	141000	126500	122100	121200
20	117100	129400	131400	125800	135200	128100	130800	133200	140000	126300	121900	121100
21	117200	129200	131100	125600	134600	128000	131100	132800	139300	125900	121700	121200
22	117200	129100	130800	125500	134000	127900	131000	132400	138500	125800	121500	121200
23	117200	128800	130500	125400	133500	127700	130600	131900	137400	125600	121300	121100
24	117100	128800	130000	125300	133100	127600	130300	135100	136500	125500	121300	121000
25	117000	128800	129700	125300	132600	127400	130000	135300	136100	125300	121100	120900
26	116900	130000	129500	125000	132000	127200	129700	134800	135900	125000	121100	120900
27	116800	131600	129200	124900	131500	127100	129700	134400	135800	124900	120900	120700
28	117200	133500	129100	124900	131200	127000	129400	133900	135000	124600	120800	120600
29	117400	133400	128900	124600	---	126900	129200	133300	134400	124400	120500	120600
30	117800	133400	128500	124700	---	126700	129000	132800	133700	124200	120300	120500
31	117900	---	128300	124700	---	126600	---	133100	---	123900	120100	---
MAX	117900	133500	134500	128200	149600	130800	131500	135300	142100	133100	123700	121800
MIN	114500	117100	128300	124600	124700	126600	126500	127500	133400	123900	120100	119800
(†)	449.88	452.45	451.63	451.04	452.09	451.35	451.74	452.41	452.51	450.90	450.26	450.32
(ϕ)	+2200	+15500	-5100	-3600	+6500	-4600	+2400	+4100	+600	-9800	-3800	+400

YR 1985 MAX 148800 MIN 114500 (ϕ) -10300
YR 1986 MAX 149600 MIN 114500 (ϕ) +4800

(†) Elevation, in feet, at end of month.
(ϕ) Change in contents, in acre-feet.

07335400 SANDERS CREEK NEAR CHICOTA, TX
(Outflow from Pat Mayse Lake)

LOCATION.--Lat 33°51'09", long 95°32'40", Lamar County, Hydrologic Unit 11140101 at upstream side of Pat Mayse Dam, 2,800 ft to right of morning-glory drop inlet, 2.0 mi southeast of Chicota, and 4.6 mi upstream from mouth.

DRAINAGE AREA.--175 mi² at Pat Mayse Dam; 184 mi² at former site 2.6 mi downstream.

PERIOD OF RECORD.--March 1964 to September 1967 (gage heights and discharge measurements only), October 1967 September 1986 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 440.00 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1967, at site 2.6 mi downstream at datum 52.77 ft lower. Oct. 1, 1967, to Sept. 30, 1970, at datum 10.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow represents uncontrolled outflow from Pat Mayse Lake (station 07335390). Streamflow downstream from the dam is affected by local runoff and backwater from the Red River.

AVERAGE DISCHARGE.--19 years, 134 ft³/s (97,080 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum outflow, 1,110 ft³/s May 27, 1982 (gage height, 22.41 ft), maximum gage height, 22.87 ft Dec. 11, 12, 1971; no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Maximum outflow, 862 ft³/s Feb. 7 at 1700 hours (gage height, 14.99 ft); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	257	72	8.2	138	43	97	254	260	5.4	.00
2	.00	.00	276	68	8.5	129	43	90	279	230	4.1	.00
3	.00	.00	279	65	141	120	43	84	294	217	3.4	.00
4	.00	.00	268	60	648	113	87	78	294	205	2.7	.00
5	.00	.00	251	56	837	104	144	74	282	188	2.4	.00
6	.00	.00	233	50	850	96	174	72	294	170	1.2	.00
7	.00	.00	205	47	859	91	176	68	300	154	1.0	.00
8	.00	.00	195	44	859	80	165	67	291	140	.40	.00
9	.00	.00	181	42	852	80	154	64	276	130	.24	.00
10	.00	.00	172	39	845	79	144	64	326	116	.15	.00
11	.00	.00	215	36	832	73	132	64	326	105	.08	.00
12	.00	.00	268	34	783	78	125	64	371	93	.04	.00
13	.00	.00	302	32	700	77	119	64	381	81	.01	.00
14	.00	.00	285	31	633	72	110	65	355	75	.00	.00
15	.00	.00	268	29	559	70	100	76	324	71	.00	.00
16	.00	.02	246	29	513	78	90	78	327	64	.04	.00
17	.00	12	227	27	459	78	82	102	473	56	.04	.00
18	.00	49	210	26	410	80	79	174	720	51	.02	.00
19	.00	101	193	26	363	78	94	240	720	46	.01	.00
20	.00	114	176	24	327	74	134	243	647	41	.00	.00
21	.00	110	163	21	290	70	161	240	587	37	.00	.00
22	.00	103	148	18	263	68	163	222	548	33	.00	.00
23	.00	98	142	17	242	65	150	205	494	30	.00	.00
24	.00	93	127	16	220	63	142	290	436	27	.00	.00
25	.00	92	114	14	200	60	134	346	405	24	.00	.00
26	.00	103	107	14	186	56	123	333	384	22	.00	.00
27	.00	151	102	11	168	54	119	318	381	18	.00	.00
28	.00	223	95	11	148	52	116	297	352	17	.00	.00
29	.00	261	89	9.1	---	50	108	265	321	14	.00	.00
30	.00	251	81	7.7	---	48	102	238	288	11	.00	.00
31	.00	---	75	8.1	---	47	---	230	---	7.5	.00	---
TOTAL	.00	1761.02	5950	983.9	13203.7	2421	3556	4912	11730	2733.5	21.23	.00
MEAN	.00	58.7	192	31.7	472	78.1	119	158	391	88.2	.68	.00
MAX	.00	261	302	72	859	138	176	346	720	260	5.4	.00
MIN	.00	.00	75	7.7	8.2	47	43	64	254	7.5	.00	.00
AC-FT	.00	3490	11800	1950	26190	4800	7050	9740	23270	5420	42	.00

CAL YR 1985 TOTAL 61713.99 MEAN 169 MAX 861 MIN .00 AC-FT 122400
WTR YR 1986 TOTAL 47272.35 MEAN 130 MAX 859 MIN .00 AC-FT 93760

07335500 RED RIVER AT ARTHUR CITY, TX

LOCATION.--Lat 33°52'32", long 95°30'08", in NW 1/4 sec.11, T.8 S., R.17 E., Choctaw County, OK, Hydrologic Unit 11140101, on right downstream bank of bridge on U.S. Highway 271 at Arthur City, 10.6 mi downstream from Muddy Boggy River, 26.0 mi upstream from Kiamichi River, and at mile 633.1.

DRAINAGE AREA.--44,531 mi^2, of which 5,936 mi^2 probably is noncontributing.

PERIOD OF RECORD.--January to September 1905 (gage heights and discharge measurements only), October 1905 to December 1911, July 1936 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected at same site since 1891 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1241: Drainage area. WSP 1311: 1906-11.

GAGE.--Water-stage recorder. Datum of gage is 380.07 ft above National Geodetic Vertical Datum of 1929. From 1905-11 nonrecording gage at St. Louis-San Francisco Railway Co. bridge 200 ft upstream at same datum. July 1, 1936 to Mar. 24, 1940, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since October 1943 by Lake Texoma (station 07331500), 92.8 mi above station.

COOPERATION.--Gage-height record and 3 discharge measurements furnished by U.S. Army Corps of Engineers; records computed by U.S. Geological Survey.

AVERAGE DISCHARGE.--13 years (water years 1906-11, 1937-43) prior to regulation by Denison Dam, 9,266 ft^3/s (6,713,000 acre-ft/yr); 42 years (water years 1945-86) since regulation by Denison Dam, 7,973 ft^3/s (5,776,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 400,000 ft^3/s May 28, 1908 (gage height, 43.2 ft), from rating curve extended above 41,000 ft^3/s on basis of records for later years; minimum, 130 ft^3/s Dec. 11-12, 1956 (gage height, 4.49 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 49,100 ft^3/s June 6 (gage height, 18.05 ft); minimum daily, 259 ft^3/s Oct. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	501	15000	17500	2150	2060	2880	1500	8290	17700	8160	3930	1050
2	486	15000	15700	1910	1960	3960	1390	10800	16600	8410	4640	799
3	478	13200	14100	1420	10300	3500	2530	13300	20900	8130	5010	749
4	402	11400	13700	2470	35200	2680	16600	13600	26000	9230	4600	859
5	340	10900	10500	3880	27600	2840	31500	13300	34500	8300	4330	3660
6	297	10600	7290	3140	21700	2760	23600	10700	45600	7460	4310	8850
7	275	9110	5720	3760	23500	2830	19700	9040	33400	6980	4210	15900
8	274	7740	5540	4410	20200	2070	16600	6280	30500	7110	3580	13300
9	259	7370	5090	4540	16500	1880	10300	5220	39000	6920	3540	7960
10	276	6930	4750	4740	13000	2700	8590	7050	42700	5470	3560	5810
11	1330	5060	5140	4090	9740	2110	7830	6880	35600	5280	3600	7380
12	1620	4830	5810	3580	8290	1770	7470	9930	31200	5200	3480	7070
13	2710	6730	8540	1900	7820	3430	7220	8690	25900	5150	3600	6940
14	3340	7140	9510	1330	6270	3940	7080	6610	20900	5120	3950	6850
15	2930	11500	8290	1880	5260	4480	6880	6710	15800	5100	4020	6820
16	2470	17300	6240	2480	4930	5560	6350	12200	15000	5030	4310	6850
17	2230	17700	5250	2520	3700	5640	5440	16700	20300	5000	4790	7570
18	2650	18300	5180	2550	3140	4040	4880	22700	26500	4980	3700	7900
19	6650	23200	4750	2280	3720	6580	8150	27400	22000	4520	3270	8000
20	12300	19600	4580	1600	4000	8060	23700	24500	17800	4260	3110	8390
21	13600	17900	4250	1150	2920	8570	27900	21900	19200	2790	2840	8430
22	12800	15400	4010	1660	2310	8230	23300	20300	20100	1710	2760	8520
23	11900	12600	3740	2350	2860	5930	20800	16900	19000	2500	2220	8430
24	10800	9690	3320	2920	3930	3430	19900	14600	19200	3950	1640	9390
25	10400	8740	3720	3790	2860	2180	17400	22400	21500	4020	1720	10900
26	10300	9520	2330	3530	3090	3340	11900	20400	16000	4010	1070	10800
27	10100	16800	1820	2580	2450	4720	9470	17400	11900	4000	973	10800
28	10200	19200	2930	1720	1940	3470	11300	14700	10200	3990	2120	9500
29	12000	19300	3620	3210	---	3080	11200	13200	8900	3980	2320	6730
30	17200	17600	2150	2340	---	2750	9760	12600	8140	4060	2270	6500
31	15900	---	1600	1930	---	2240	---	12300	---	4000	2000	---
TOTAL	177018	385360	196670	83810	251250	121650	380240	426600	692040	164820	101473	222707
MEAN	5710	12850	6344	2704	8973	3924	12670	13760	23070	5317	3273	7424
MAX	17200	23200	17500	4740	35200	8570	31500	27400	45600	9230	5010	15900
MIN	259	4830	1600	1150	1940	1770	1390	5220	8140	1710	973	749
AC-FT	351100	764400	390100	166200	498400	241300	754200	846200	1373000	326900	201300	441700

CAL YR 1985 TOTAL 5279768 MEAN 14470 MAX 52300 MIN 259 AC-FT 10472000
WTR YR 1986 TOTAL 3203638 MEAN 8777 MAX 45600 MIN 259 AC-FT 6354000

07336820 RED RIVER NEAR DE KALB, TX

LOCATION.--Lat 33°41'15", long 94°41'39", Bowie County, Tex.-McCurtain County, Okla. State line, Hydrologic Unit 11140106, near left bank at downstream side of bridge on U.S. Highway 259, 4.8 mi upstream from North Mill Creek, 13 mi north of De Kalb, and at mile 556.9.

DRAINAGE AREA.--47,348 mi², of which 5,936 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 302.92 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. At times, flood peaks may be affected by storage in Lake Texoma (station 07331500) located approximately 169 mi upstream, and low flows may be affected by releases for generation of electric power. Storage and/or releases from Lake Hugo on the Kiamichi River, a tributary to the Red River about 45 miles upstream, may also affect flows. Gage-height telemeter at station.

AVERAGE DISCHARGE.--18 years (water years 1969-86), 12,060 ft³/s (8,737,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 189,000 ft³/s Dec. 11, 1971 (gage height, 31.55 ft), from graph based on gage readings; minimum, 213 ft³/s Nov. 30, 1979, from graph based on gage readings.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1957, 205,000 ft³/s June 1957 (gage height, 32.2 ft), from rating curve extended above 186,500 ft³/s. The greatest flood since 1936 occurred in February 1938, stage unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 65,000 ft³/s June 7 at 0400 hours (gage height, 23.14 ft); minimum daily, 767 ft³/s Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1430	22100	40800	2880	2130	2580	3280	26300	28200	9340	4280	2530
2	1160	19100	39300	2230	1900	2470	2800	21400	33700	9870	4240	2240
3	1010	18800	36300	2010	2170	3170	2450	17300	36900	10800	4320	1650
4	943	17000	35000	2010	23900	3860	8620	16600	39400	9690	5120	1550
5	901	14400	35200	1770	51900	3440	24600	17700	45900	10100	5390	1880
6	844	13100	31400	1840	44900	2940	36500	17800	56000	10200	5100	2630
7	792	12700	26500	2220	41000	2940	36000	15400	62700	9050	4820	6180
8	767	11500	22800	2260	42900	2910	30700	12400	52600	8220	4780	13200
9	769	8830	21200	2320	38900	2840	29100	9620	49100	7830	4490	17200
10	779	8010	20100	3830	33200	2360	23900	7530	53900	7610	4080	14900
11	788	7820	26200	4840	29000	2430	24000	7800	57400	6620	4110	10900
12	799	6430	25900	4830	25400	2750	20400	9010	50300	5970	3940	10600
13	1290	5410	22300	4200	23000	2640	15900	11000	44800	5780	3880	9220
14	1750	6240	19900	3330	21800	4980	14400	14300	37400	5670	3720	8600
15	2780	7410	17400	2250	18400	6700	13900	14000	29300	5590	3950	8390
16	3400	13500	14600	1760	14700	6890	13500	14300	23200	5520	4440	8130
17	3090	24900	10300	2120	13500	7860	12400	21300	21300	5440	4600	7840
18	2820	30500	7690	2440	12100	8310	9050	32200	25800	5400	4870	7920
19	3030	34700	6670	2470	10700	7980	7660	39000	33000	5350	5170	8470
20	4810	43300	6410	2440	8540	7690	14300	43800	30700	5180	3880	8720
21	10800	40900	5930	2220	5930	10900	31200	41500	24200	4740	3660	8990
22	14500	38200	5460	1740	5110	11700	36900	37700	23200	4330	3360	9270
23	15100	34900	5080	1440	4160	12100	37100	34300	25300	2930	3110	9420
24	14000	31300	4750	1970	3810	10600	37500	28900	24900	2350	3040	9420
25	12700	26400	4550	2530	4460	8340	38400	29700	24300	3260	2460	9460
26	11900	25000	4960	3160	4250	5700	35600	37500	25500	4120	2190	11100
27	11600	31500	4900	3800	3280	3990	31300	35200	21300	4250	2030	12100
28	11600	41600	4350	3480	3170	4920	28000	32400	15700	4250	1630	12100
29	11800	43300	4060	2750	---	4690	28500	32100	12400	4230	1660	11900
30	13300	42300	3870	2260	---	4000	28600	29200	10800	4210	2360	9370
31	20500	---	3390	2720	---	3590	---	27700	---	4220	2550	---
TOTAL	181752	681150	517270	82120	494210	168270	676560	734960	1019200	192120	117230	255880
MEAN	5863	22710	16690	2649	17650	5428	22550	23710	33970	6197	3782	8529
MAX	20500	43300	40800	4840	51900	12100	38400	43800	62700	10800	5390	17200
MIN	767	5410	3390	1440	1900	2360	2450	7530	10800	2350	1630	1550
AC-FT	360500	1351000	1026000	162900	980300	333800	1342000	1458000	2022000	381100	232500	507500

CAL YR 1985 TOTAL 7574532 MEAN 20750 MAX 63200 MIN 767 AC-FT15024000
WTR YR 1986 TOTAL 5120722 MEAN 14030 MAX 62700 MIN 767 AC-FT10157000

07336820 RED RIVER NEAR DE KALB, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: October 1970 to September 1981.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1968 to current year.
WATER TEMPERATURES: January 1968 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationship between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,140 microsiemens July 13, 1980; minimum daily, 114 microsiemens Oct. 31, 1984.
WATER TEMPERATURES: Maximum daily, 34.0°C on several days during July and August 1969-70; minimum daily, 0.0°C Jan. 11, 1977.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,660 microsiemens Sept. 30; minimum daily, 217 microsiemens Apr. 24.
WATER TEMPERATURES: Maximum daily, 30.0°C on several days during July and August.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 19...	1230	33800	610	7.80	16.0	55	170	8.4	85	1.4	140	66
FEB 19...	1520	10700	283	7.60	13.0	70	46	--	--	0.8	78	25
APR 01...	1600	3270	998	8.20	20.5	25	10	8.5	95	2.4	230	89
MAY 20...	1900	44700	371	7.80	21.0	100	150	8.8	99	2.2	97	33
JUL 09...	0745	7600	1280	8.40	29.0	10	7.0	7.2	--	2.2	290	140
AUG 26...	1330	2150	1150	8.20	30.5	20	20	8.2	--	3.7	270	110

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED. (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
NOV 19...	40	9.9	64	2	3.9	75	66	100	0.2	4.3	330	470
FEB 19...	22	5.5	25	1	2.3	53	30	34	<0.1	8.4	160	80
APR 01...	65	17	100	3	4.1	143	110	150	0.2	4.0	540	35
MAY 20...	29	5.9	31	1	2.7	64	38	43	0.2	5.6	190	482
JUL 09...	78	22	140	4	4.7	143	150	230	0.3	2.8	710	81
AUG 26...	72	22	130	4	4.4	156	140	190	0.3	5.9	660	26

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 19...	28	0.17	0.03	0.20	0.10	0.7	0.8	0.08	7.1	--	--	--
FEB 19...	7	0.28	0.02	0.30	0.05	0.45	0.5	0.07	9.5	--	--	--
APR 01...	11	--	<0.01	<0.10	0.02	0.68	0.7	0.05	8.9	50	441	67
MAY 20...	48	0.26	0.04	0.30	0.06	0.74	0.8	0.18	14	1540	186000	51
JUL 09...	--	--	<0.01	<0.10	0.06	0.44	0.5	0.09	6.0	638	13100	15
AUG 26...	3	--	<0.01	<0.10	0.02	0.48	0.5	0.09	9.4	52	302	73

07336820 RED RIVER NEAR DE KALB, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV												
19...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
19...	<1	70	2	<10	2	40	9	36	0.1	<1	<1	22
APR												
01...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
20...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
09...	1	140	1	<10	1	8	<5	4	0.1	<1	1	32
AUG												
26...	--	--	--	--	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	181752	1100	624	306000	190	91700	130	65700	260
NOV. 1985	681150	669	375	689000	100	190600	76	139400	170
DEC. 1985	517270	478	266	371000	69	96800	52	71900	130
JAN. 1986	82120	1060	602	134000	180	39500	130	28400	260
FEB. 1986	494210	369	204	273000	52	68800	39	51600	100
MAR. 1986	168270	812	456	207000	130	58100	93	42300	210
APR. 1986	676560	495	275	503000	72	131400	53	97600	130
MAY 1986	734960	574	320	635000	85	169300	63	125100	150
JUNE 1986	1019200	799	449	1235E3	130	348400	92	253500	200
JULY 1986	192120	1210	689	358000	210	109100	150	77800	280
AUG. 1986	117230	1310	744	235000	230	73100	160	52000	300
SEPT 1986	255880	1150	654	452000	200	141300	150	100200	260
TOTAL	5120722	**	**	5399000	**	1518000	**	1105000	**
WTD.AVG.	14030	695	390	**	110	**	80	**	180

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1090	912	385	961	1410	992	1010	676	745	1040	1350	1050
2	982	914	391	828	1370	1010	1050	698	637	1260	1400	1200
3	950	915	398	811	1160	872	1090	727	620	1080	1390	1250
4	918	917	342	870	590	990	517	758	640	1190	1380	1100
5	905	1040	383	929	305	1230	365	786	633	940	1410	1000
6	925	1170	341	872	275	1130	335	828	540	915	1380	858
7	938	1200	298	950	267	1140	330	845	433	1110	1310	790
8	917	1220	325	1060	298	1120	645	1040	465	1250	1320	650
9	930	1230	354	1180	270	1110	681	1160	503	1290	1340	635
10	912	1250	355	1270	244	1130	701	998	678	1370	1300	416
11	909	1280	318	1250	320	794	524	1030	710	1340	1280	240
12	937	1290	344	1260	316	968	600	972	778	1280	1340	244
13	1000	1170	348	1240	356	1070	685	880	805	1300	1380	750
14	1040	1200	772	1190	373	940	737	564	895	1320	1390	1060
15	1060	1340	760	1150	425	698	758	339	960	1290	1360	1230
16	1160	1280	748	1050	405	582	768	370	1030	1300	1380	1250
17	1200	850	776	967	387	559	780	335	1040	1280	1350	1350
18	1270	680	747	1100	373	545	896	330	1030	1300	1340	1330
19	1210	662	778	1110	309	626	1010	326	1020	1320	1330	1300
20	1120	518	838	1130	595	680	776	323	709	1330	1260	1330
21	900	475	883	1210	620	567	459	330	895	1290	1100	1440
22	842	432	890	1240	643	700	324	334	1120	1270	1320	1640
23	837	414	904	1300	642	876	259	438	1210	1300	1280	1630
24	947	445	929	1110	640	790	217	515	1240	1270	1220	1620
25	1080	478	975	905	554	835	332	640	1280	1120	1170	1590
26	1200	538	962	868	864	910	345	600	1330	1090	1150	1600
27	1320	495	950	840	870	995	375	625	1170	1190	1190	1530
28	1370	435	915	853	925	860	395	638	1130	1310	1180	1570
29	1400	415	863	975	---	904	607	641	1200	1330	1100	1640
30	1440	378	838	1090	---	925	668	702	1280	1340	1010	1660
31	1010	---	900	1040	---	965	---	730	---	1350	970	---
MEAN	1060	851	645	1050	565	888	608	651	891	1240	1280	1170

07336820 RED RIVER NEAR DE KALB, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	15.0	---	7.0	10.0	10.0	20.0	19.0	---	28.0	30.0	---
2	15.0	---	---	7.0	15.0	---	---	---	23.0	27.0	---	23.0
3	17.0	---	7.0	8.0	15.0	12.0	---	---	23.0	27.0	---	23.0
4	18.0	14.0	7.0	8.0	15.0	12.0	18.0	---	27.0	---	27.0	24.0
5	17.0	13.0	7.0	7.0	14.0	12.0	---	20.0	23.0	---	27.0	24.0
6	---	15.0	7.0	6.0	13.0	12.0	20.0	20.0	23.0	---	27.0	24.0
7	18.0	15.0	7.0	---	11.0	---	20.0	21.0	24.0	27.0	27.0	---
8	17.0	15.0	---	---	9.0	12.0	20.0	21.0	---	28.0	---	---
9	19.0	15.0	11.0	5.0	---	---	18.0	21.0	25.0	28.0	27.0	23.0
10	21.0	---	11.0	5.0	7.0	15.0	18.0	22.0	25.0	30.0	26.0	23.0
11	21.0	17.0	10.0	5.0	6.0	16.0	19.0	---	24.0	28.0	---	25.0
12	22.0	17.0	8.0	---	6.0	15.0	---	23.0	25.0	28.0	27.0	24.0
13	---	18.0	8.0	6.0	6.0	15.0	---	23.0	---	28.0	26.0	24.0
14	23.0	18.0	5.0	8.0	6.0	16.0	19.0	24.0	---	28.0	27.0	---
15	23.0	18.0	---	8.0	6.0	15.0	17.0	22.0	---	28.0	27.0	24.0
16	21.0	15.0	5.0	9.0	---	14.0	17.0	23.0	25.0	28.0	27.0	24.0
17	---	---	5.0	11.0	11.0	15.0	17.0	---	25.0	28.0	---	---
18	---	15.0	5.0	10.0	10.0	15.0	16.0	---	25.0	28.0	---	25.0
19	---	16.0	4.0	10.0	11.0	14.0	---	19.0	24.0	---	28.0	---
20	---	15.0	5.0	---	11.0	13.0	16.0	19.0	25.0	29.0	29.0	25.0
21	---	13.0	5.0	---	---	12.0	16.0	---	---	29.0	28.0	25.0
22	20.0	13.0	---	---	11.0	---	16.0	20.0	---	29.0	28.0	25.0
23	21.0	13.0	---	---	---	13.0	16.0	21.0	27.0	29.0	---	25.0
24	21.0	---	---	---	11.0	14.0	17.0	---	27.0	30.0	---	---
25	21.0	13.0	---	---	11.0	---	18.0	---	---	30.0	28.0	25.0
26	20.0	15.0	4.0	---	11.0	---	---	---	26.0	30.0	28.0	25.0
27	---	15.0	---	---	12.0	---	---	21.0	26.0	---	28.0	---
28	19.0	---	---	---	---	---	18.0	---	---	30.0	27.0	---
29	17.0	12.0	---	---	---	18.0	19.0	22.0	---	30.0	24.0	25.0
30	---	12.0	7.0	---	---	---	19.0	23.0	28.0	30.0	---	---
31	15.0	---	---	---	---	18.0	---	---	---	30.0	---	---
MEAN	19.0	15.0	6.5	7.5	10.5	14.0	18.0	21.5	25.0	28.5	27.5	24.5

07337000 RED RIVER AT INDEX, AR

LOCATION.--Lat 33°33'07", long 94°02'28", in NW 1/4 SW 1/4 sec.7, T.14 S., R.28 W., Miller County, Hydrologic Unit 11140106, near right bank on downstream side of southbound bridge on U.S. Highway 71 at Index, 2.2 mi south of Ogden, 20.6 mi upstream from Little River, and at mile 485.3.

DRAINAGE AREA.--48,030 mi^2, of which 5,936 mi^2 is probably noncontributing.

PERIOD OF RECORD.--July 1936 to current year. Gage-height records collected at same site since 1917 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 246.87 ft National Geodetic Vertical Datum of 1929. Prior to Dec. 12, 1939, nonrecording gage, and Dec. 12, 1939, to July 19, 1979, water-stage recorder, at site 500 ft downstream at present datum.

REMARKS.--No estimated daily discharges. Records good. Some regulation since Oct. 31, 1943, by Lake Texoma (station 07331500), 241 mi upstream, capacity, 5,392,900 acre-ft, since Sept. 28, 1967, by Pat Mayse Lake (station 07335390), capacity, 352,700 acre-ft, and since Jan. 18, 1974, by Hugo Lake (Oklahoma) capacity, 966,700 acre-ft. Satellite telemeter at station.

AVERAGE DISCHARGE.--50 years, 11,840 ft^3/s (8,578,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 297,000 ft^{3}3/s Feb. 23, 1938 (gage height, 34.25 ft); minimum, 378 ft^3/s Nov. 28, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 49,200 ft^3/s June 7 (gage height, 15.70 ft); minimum daily, 1,180 ft^3/s Oct. 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1960	16000	32600	4500	2980	3940	3900	25100	23600	10800	3700	2270
2	2060	17600	32000	4040	3140	3690	3600	26500.	24500	9630	3690	2440
3	1790	16000	30700	3320	2960	3280	3270	21800	28800	9980	3720	2500
4	1580	15600	28500	3080	7200	3360	3320	17900	32500	11400	3690	2160
5	1450	14400	28400	3130	28000	3960	15900	16400	34100	10200	3890	1990
6	1390	12500	27500	2880	40300	4160	37200	16800	37500	9540	4340	2020
7	1350	11400	24400	2840	36500	3700	35800	16600	45900	9670	4420	2150
8	1300	10900	21400	3640	34100	3450	27300	14900	46900	8690	4210	3020
9	1260	10300	19600	3860	34600	3420	25100	12300	41400	7790	4040	8590
10	1230	8810	19000	3960	29300	3390	23200	10100	40200	7280	4030	14200
11	1210	8160	25700	4360	25100	3270	20200	8130	44500	7050	3840	13200
12	1190	11500	32700	4660	22500	3100	18900	7800	45800	6470	3690	9640
13	1180	10800	28400	4850	20500	3400	16900	8840	40600	5700	3520	8480
14	1180	7210	22300	4690	19000	3430	14600	9810	37300	5380	3410	7890
15	1500	6330	18900	4220	18400	3800	13800	13000	32300	5230	3360	7110
16	2000	7050	17000	3400	16400	5970	13400	13500	27300	5110	3310	6840
17	2810	13500	14900	2780	14100	6990	13000	13900	23800	5010	3540	6810
18	3180	24700	11800	2580	13100	7820	12300	21000	22100	4950	3770	6510
19	3110	25500	9010	2850	12200	9390	10200	28200	25300	4870	3850	6350
20	2940	28100	7610	3030	11300	8830	11300	31900	30300	4820	4050	6580
21	3230	31100	7060	3060	9580	7800	19200	33700	28600	4750	3960	6890
22	7580	28600	6520	2970	7120	9150	29000	31300	23900	4500	3260	7030
23	12300	26800	6080	2740	5990	10800	29800	29300	22800	4230	3160	7280
24	13400	24800	5700	2400	5160	11300	29500	26500	24300	3600	2970	7400
25	12700	22800	5340	2280	4610	10600	30100	24200	24000	2890	2880	7470
26	11700	21000	5080	2710	4680	8950	29900	25700	23400	2740	2730	7450
27	11000	20800	5260	3110	5030	6860	28100	29600	24000	3410	2380	8050
28	10800	26500	5470	3690	4340	4730	26300	27600	20600	3760	2250	9280
29	10800	32200	4640	4000	---	4540	24300	26100	16100	3800	2050	9700
30	10900	32600	3910	3670	---	4960	24700	25600	12700	3780	1860	9570
31	11700	---	4050	3120	---	4370	---	24200	---	3750	1920	---
TOTAL	151780	543560	511530	106420	438190	176410	594090	638280	905100	190780	105490	200870
MEAN	4896	18120	16500	3433	15650	5691	19800	20590	30170	6154	3403	6696
MAX	13400	32600	32700	4850	40300	11300	37200	33700	46900	11400	4420	14200
MIN	1180	6330	3910	2280	2960	3100	3270	7800	12700	2740	1860	1990
AC-FT	301100	1078000	1015000	211100	869100	349900	1178000	1266000	1795000	378400	209200	398400

CAL YR 1985 TOTAL 7331250 MEAN 20090 MAX 56500 MIN 1180 AC-FT14542000
WTR YR 1986 TOTAL 4562500 MEAN 12500 MAX 46900 MIN 1180 AC-FT 9050000

07342470 SOUTH SULPHUR RIVER NEAR COMMERCE, TX

LOCATION.--Lat 33°13'11", long 95°51'45", Hunt County, Hydrologic Unit 11140301, on left bank at downstream side of bridge on State Highway 11, 0.7 mi upstream from St. Louis Southwestern Railroad bridge, 1.8 mi downstream from Dunbar Creek, and 3.0 mi southeast of Commerce.

DRAINAGE AREA.--189 mi^2.

PERIOD OF RECORD.--October 1979 to current year. Stage records collected at this site November 1956 to September 1979 are published in reports by the U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 450.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 4-20. Records good except those for estimated daily discharges, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--7 years (water years 1980-86), 135 ft^3/s (9.70 in/yr), 97,810 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,100 ft^3/s May 13, 1982 (gage height, 28.66 ft); minimum, 0.09 ft^3/s Apr. 21, 1985.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 20, 1971, reached a stage of 27.80 ft, from records published by the U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 27	1000	4,350	19.74	Dec. 12	0330	8,320	23.98
Feb. 3	2300	3,080	17.05	Feb. 6	0815	3,040	16.96
Apr. 5	0700	*13,000	25.79	May 17	2045	3,480	17.97
June 11	1130	4,190	19.43				

Minimum daily discharge, 0.48 ft^3/s Nov. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	61	353	5.0	2.7	2.3	1.8	7.8	45	5.2	1.1	1.8
2	2.7	35	229	3.9	2.8	2.2	2.0	11	639	80	1.0	3.4
3	2.4	24	68	3.7	905	2.1	3.4	4.8	1020	340	1.0	2.8
4	2.2	8.5	42	3.4	1340	2.1	734	3.1	1290	338	1.1	1.9
5	1.8	4.8	32	2.9	280	2.1	7660	2.1	1560	80	.96	106
6	1.7	2.3	26	2.7	2330	2.0	911	2.4	729	26	1.2	428
7	2.1	1.1	22	2.6	870	2.0	114	1.8	642	14	1.3	234
8	2.2	.48	16	2.1	230	1.8	62	1.6	845	7.6	1.1	70
9	2.2	4.0	12	1.9	169	1.7	41	2.6	132	4.2	.90	27
10	2.5	100	927	2.0	121	1.8	32	116	81	3.0	.84	13
11	2.7	800	4850	2.1	79	2.0	26	226	2760	2.4	.91	6.4
12	2.2	140	1090	2.1	51	14	135	55	920	2.3	.91	4.1
13	2.6	500	224	2.2	37	11	58	27	108	1.6	.89	3.0
14	4.1	1500	92	2.1	30	6.3	33	16	56	1.6	.89	2.1
15	3.1	2900	57	2.2	25	3.2	23	8.1	37	1.6	.90	2.1
16	3.0	2800	43	2.2	23	4.6	14	4.9	30	1.6	.83	1.9
17	5.8	2000	36	2.4	20	4.5	13	1530	934	1.6	.79	1.9
18	25	1300	30	2.6	15	11	20	1860	221	1.6	.85	1.9
19	254	300	25	2.5	9.6	10	335	558	122	1.3	.88	1.9
20	343	180	22	2.4	8.8	3.6	1560	89	47	1.2	.91	1.8
21	65	67	20	2.4	6.6	2.7	197	39	29	1.2	.91	1.7
22	35	40	16	2.4	5.4	2.2	64	24	22	3.2	.88	1.8
23	24	29	13	2.2	4.6	2.1	38	15	19	2.6	.86	1.7
24	15	87	10	2.3	3.9	2.5	28	10	47	1.4	.85	1.8
25	9.5	204	8.5	2.2	3.6	2.4	21	11	133	1.2	.83	2.0
26	6.5	131	7.8	2.2	3.2	2.1	13	8.6	51	1.1	1.3	1.9
27	4.0	2890	7.4	2.4	2.7	2.2	184	6.6	32	.96	1.5	1.8
28	13	806	6.8	2.6	2.5	2.2	117	5.0	65	1.0	1.6	1.9
29	520	144	6.0	2.6	---	2.1	25	4.3	48	1.1	1.4	1.9
30	459	70	5.2	2.5	---	1.7	12	3.7	11	1.2	1.4	2.2
31	160	---	6.6	2.5	---	1.8	---	3.2	---	1.1	1.3	---
TOTAL	1979.3	17129.18	8303.3	79.3	6581.4	114.3	12477.2	4657.6	12675	930.86	32.09	933.7
MEAN	63.8	571	268	2.56	235	3.69	416	150	423	30.0	1.04	31.1
MAX	520	2900	4850	5.0	2330	14	7660	1860	2760	340	1.6	428
MIN	1.7	.48	5.2	1.9	2.5	1.7	1.8	1.6	11	.96	.79	1.7
CFSM	.34	3.02	1.42	.01	1.24	.02	2.20	.79	2.24	.16	.01	.16
IN.	.39	3.37	1.63	.02	1.30	.02	2.46	.92	2.49	.18	.01	.18
AC-FT	3930	33980	16470	157	13050	227	24750	9240	25140	1850	64	1850

CAL YR 1985 TOTAL 63166.79 MEAN 173 MAX 4850 MIN .26 CFSM .92 IN. 12.43 AC-FT 125
WTR YR 1986 TOTAL 65893.23 MEAN 181 MAX 7660 MIN .48 CFSM .96 IN. 12.97 AC-FT 130

07342500 SOUTH SULPHUR RIVER NEAR COOPER, TX

LOCATION (revised).--Lat 33°21'23 , long 95°35'41, Delta County, Hydrologic Unit 11140301, on levee on left bank 110 ft downstream from bridge on State Highways 19 and 154, 1.0 mi downstream from Big Creek, 1.0 mi upstream from Brushy Creek, 4.5 mi downstream from Doctors Creek, and 5.6 mi southeast of Cooper.

DRAINAGE AREA.--527 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1942 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 371.91 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 15, 1985, at site 360 ft to right and 90 ft upstream at same datum. Oct. 1, 1970, at datum 3.00 ft higher. May 9, 1942, to Nov. 8, 1949, nonrecording gage, and Nov. 9, 1949, to May 13, 1955, water-stage recorder at site 1,060 ft to right of present gage. Gage-height telemeter located at station.

REMARKS.--No estimated daily discharges. Records good. There are numerous small diversions upstream from station. Low flow is sustained by sewage effluent released upstream.

AVERAGE DISCHARGE.--44 years (water years 1943-86), 405 ft³/s (10.44 in/yr), 293,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,200 ft³/s May 13, 1982 (gage height, 27.21 ft, from floodmark), in gage well; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 12	0630	a*8,980	*20.37	No other peak greater than base discharge.			

a Result of levee break upstream.

Minimum discharge, no flow Oct. 1-2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	16	70	30	17	19	16	53	20	37	.08	.00
2	.00	7.3	73	27	18	20	16	184	31	31	.03	.00
3	.00	4.2	35	27	65	21	16	282	133	55	.03	.00
4	.00	2.8	28	27	385	21	16	105	96	34	.02	.00
5	.00	2.2	23	25	334	19	64	58	76	25	.08	.00
6	.00	2.2	19	23	173	19	121	46	87	21	12	.00
7	.00	2.2	17	25	122	18	51	39	53	19	13	.00
8	.00	2.2	18	23	77	18	32	34	39	16	2.8	.34
9	.00	2.2	18	22	65	18	26	32	41	15	.84	.05
10	.00	2.2	18	22	70	20	21	59	46	13	.24	.24
11	.00	18	1170	22	68	18	19	46	46	12	.13	.10
12	.00	96	775	22	52	26	25	42	55	11	.08	.05
13	.00	102	309	21	45	33	33	31	32	9.0	.00	.00
14	.00	30	200	20	44	23	23	26	25	7.7	.00	.00
15	.00	17	123	20	41	21	18	23	21	6.5	.00	.00
16	.00	13	90	20	39	33	15	21	20	4.6	.00	.00
17	.00	17	74	22	39	38	15	65	24	3.4	.00	.00
18	.02	32	65	27	36	35	19	177	24	2.4	.00	.00
19	2.3	29	55	25	33	50	40	155	20	1.9	.00	.00
20	7.2	19	50	22	31	30	414	60	18	1.8	.00	.04
21	2.8	17	46	21	28	22	409	39	16	1.8	.00	8.8
22	1.9	14	44	20	26	20	140	32	16	30	.00	6.6
23	1.9	12	43	18	25	19	64	27	15	18	.00	3.2
24	1.9	12	42	19	25	19	47	25	14	12	.00	1.4
25	1.9	35	36	19	23	19	39	32	14	7.1	.00	.42
26	1.8	59	31	18	23	19	33	32	314	3.8	.00	.03
27	1.7	48	32	17	23	18	30	26	108	2.8	.00	.00
28	1.8	80	33	16	21	17	77	23	249	1.4	.00	.00
29	3.9	42	30	17	---	17	144	21	166	.84	.00	.00
30	12	28	30	17	---	17	68	19	69	.34	.00	.00
31	25	---	31	17	---	16	---	18	---	.20	.00	---
TOTAL	66.12	763.5	3628	671	1948	703	2051	1832	1888	404.58	29.33	21.27
MEAN	2.13	25.4	117	21.6	69.6	22.7	68.4	59.1	62.9	13.1	.95	.71
MAX	25	102	1170	30	385	50	414	282	314	55	13	8.8
MIN	.00	2.2	17	16	17	16	15	18	14	.20	.00	.00
CFSM	.04	.53	2.44	.45	1.45	.47	1.42	1.23	1.31	.27	.02	.01
IN.	.05	.59	2.81	.52	1.51	.54	1.59	1.42	1.46	.31	.02	.02
AC-FT	131	1510	7200	1330	3860	1390	4070	3630	3740	802	58	42

CAL YR 1985 TOTAL 14859.38 MEAN 40.7 MAX 1170 MIN .00 CFSM .85 IN. 11.52 AC-FT 29470
WTR YR 1986 TOTAL 14005.80 MEAN 38.4 MAX 1170 MIN .00 CFSM .80 IN. 10.85 AC-FT 27780

07342500 SOUTH SULPHUR RIVER NEAR COOPER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1958 to September 1966, October 1967 to current year. Chemical and biochemical analyses: December 1979 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1958 to September 1966, October 1967 to current year.
WATER TEMPERATURES: October 1958 to September 1966, October 1967 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 4,710 microsiemens Aug. 14, 1973; minimum daily, 82 microsiemens July 2, 1976.
WATER TEMPERATURES: Maximum daily, 36.0°C Aug. 6, 1960, Aug. 10, 1962; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 841 microsiemens Apr. 3; minimum daily, 115 microsiemens Dec. 12.
WATER TEMPERATURES: Maximum daily, 29.0°C July 27, 28; minimum daily, 2.0°C Dec. 14, 26.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV												
20...	1605	2350	205	7.60	11.0	80	94	--	--	2.0	84	9
FEB												
18...	1230	31	427	7.60	12.5	50	34	9.0	86	1.1	150	9
MAR												
31...	1220	2.9	813	7.90	21.0	25	11	7.4	83	3.7	220	0
MAY												
19...	1215	2300	219	7.60	18.0	10	100	9.1	97	3.5	80	5
JUL												
07...	1440	51	254	7.70	28.0	60	1000	5.5	--	1.8	93	2
AUG												
25...	1445	0.51	472	7.80	29.5	15	14	7.8	--	1.7	180	4

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV											
20...	29	2.8	11	0.5	4.4	75	27	5.5	0.2	15	140
FEB											
18...	52	5.6	29	1	3.9	144	41	19	0.2	10	250
MAR											
31...	73	8.6	87	3	5.6	251	95	47	0.4	1.8	470
MAY											
19...	28	2.5	10	0.5	4.6	75	19	6.2	0.2	11	130
JUL											
07...	33	2.6	12	0.6	1.5	91	19	7.7	0.3	10	140
AUG											
25...	61	6.4	27	0.9	5.1	175	23	25	0.4	8.5	260

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)
NOV											
20...	170	16	0.55	0.05	0.60	0.05	1.0	1.1	0.27	16	--
FEB											
18...	46	5	1.21	0.09	1.30	0.08	0.82	0.9	0.17	11	4
MAR											
31...	26	7	0.17	0.03	0.20	0.08	1.2	1.3	0.19	14	--
MAY											
19...	244	30	4.93	0.07	5.00	0.06	1.4	1.5	0.40	16	5
JUL											
07...	208	--	0.58	0.02	0.60	0.04	0.76	0.8	0.23	11	8
AUG											
25...	22	3	--	0.01	<0.10	0.05	0.45	0.5	0.10	9.4	--

07342500 SOUTH SULPHUR RIVER NEAR COOPER, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 20...	--	--	--	--	--	--	--	--	--	--	--
FEB 18...	75	<1	<10	7	160	6	23	0.2	1	<1	20
MAR 31...	--	--	--	--	--	--	--	--	--	--	--
MAY 19...	43	<1	<10	<1	120	3	4	<0.1	<1	<1	21
JUL 07...	51	<1	<10	7	53	<5	8	0.2	<1	<1	14
AUG 25...	--	--	--	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	2006.30	285	166	899	11	61	22	122	100
NOV. 1985	33140.14	163	96	8580	5.1	456	12	1090	62
DEC. 1985	24112.4	146	86	5570	4.5	292	11	707	55
JAN. 1986	109.6	561	322	95	32	9.5	49	15	170
FEB. 1986	23599.8	217	127	8080	7.7	488	17	1060	80
MAR. 1986	199.0	705	402	216	47	25	65	35	200
APR. 1986	25963.8	219	128	8960	8.1	567	17	1190	79
MAY 1986	9040.3	248	145	3540	9.3	227	19	472	90
JUNE 1986	27274.4	199	116	8570	6.8	498	15	1120	74
JULY 1986	2545.2	200	117	805	6.8	47	15	105	74
AUG. 1986	50.26	462	267	36	23	3.2	39	5.3	150
SEPT 1986	2058.8	230	134	746	8.2	46	18	98	84
TOTAL	150100.00	**	**	46100	**	2720	**	6020	**
WTD.AVG.	411	194	114	**	6.7	**	15	**	72

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	250	228	470	695	602	829	256	410	328	434	474
2	---	254	240	482	693	605	838	278	412	247	440	468
3	587	264	265	493	450	613	841	300	376	173	445	462
4	553	274	255	501	215	619	510	330	282	184	447	467
5	533	280	261	507	210	620	269	335	197	202	445	435
6	528	286	271	526	208	635	176	340	172	239	444	250
7	524	290	281	536	187	636	154	353	200	246	450	191
8	522	296	295	544	200	641	191	368	242	254	460	217
9	524	298	309	480	213	657	201	378	234	268	461	227
10	527	303	265	559	250	662	227	389	239	284	465	245
11	533	286	129	556	296	670	256	401	200	297	471	264
12	534	150	115	566	313	650	292	453	156	310	478	277
13	541	133	145	571	329	651	321	420	164	320	479	293
14	545	175	149	580	339	683	340	416	181	326	484	302
15	548	165	163	585	360	656	346	428	195	336	483	306
16	554	151	193	589	382	768	345	438	204	344	470	309
17	557	150	209	588	406	697	366	410	221	353	469	311
18	543	146	235	598	430	701	389	262	300	360	467	318
19	495	143	258	605	455	715	375	223	251	370	468	325
20	325	189	283	610	475	724	321	210	276	376	490	329
21	287	206	308	614	500	738	215	219	257	381	470	335
22	282	223	324	616	518	746	235	236	267	373	473	340
23	294	220	343	622	533	762	249	239	285	395	475	344
24	303	238	364	629	542	776	263	258	310	399	480	347
25	312	195	379	635	555	794	280	279	321	404	482	352
26	321	190	395	639	562	808	306	306	276	413	484	355
27	327	180	407	647	575	810	332	332	261	419	485	360
28	332	154	423	651	592	808	300	353	353	408	486	362
29	310	171	438	656	---	810	215	370	364	416	490	367
30	280	186	449	664	---	809	228	384	340	423	489	373
31	245	---	454	670	---	820	---	400	---	424	472	---
MEAN	440	215	285	580	410	706	340	334	265	331	469	334

07342500 SOUTH SULPHUR RIVER NEAR COOPER, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	14.0	10.0	5.0	11.0	9.0	20.0	20.0	23.0	27.0	28.0	23.0
2	---	14.0	8.0	5.0	14.0	10.0	19.0	19.0	22.0	28.0	28.0	22.0
3	15.0	12.0	6.0	5.0	15.0	13.0	19.0	19.0	22.0	28.0	27.0	23.0
4	17.0	12.0	6.0	7.0	15.0	12.0	17.0	19.0	22.0	25.0	26.0	25.0
5	15.0	12.0	6.0	5.0	15.0	12.0	19.0	20.0	23.0	26.0	26.0	24.0
6	14.0	12.0	6.0	5.0	12.0	13.0	20.0	20.0	24.0	27.0	27.0	22.0
7	14.0	12.0	7.0	6.0	9.0	13.0	22.0	21.0	25.0	26.0	27.0	22.0
8	17.0	11.0	7.0	5.0	8.0	14.0	22.0	22.0	24.0	26.0	27.0	22.0
9	19.0	15.0	10.0	4.0	7.0	15.0	20.0	21.0	25.0	27.0	28.0	23.0
10	21.0	16.0	12.0	4.0	6.0	17.0	19.0	22.0	25.0	27.0	27.0	24.0
11	20.0	15.0	11.0	4.0	4.0	17.0	19.0	21.0	24.0	27.0	26.0	25.0
12	22.0	14.0	8.0	5.0	4.0	16.0	19.0	21.0	23.0	27.0	26.0	23.0
13	22.0	16.0	5.0	5.0	3.0	16.0	19.0	22.0	25.0	28.0	25.0	22.0
14	23.0	17.0	2.0	6.0	5.0	16.0	20.0	23.0	25.0	27.0	25.0	22.0
15	22.0	18.0	3.0	6.0	5.0	16.0	18.0	22.0	25.0	28.0	26.0	23.0
16	19.0	15.0	3.0	8.0	8.0	16.0	17.0	23.0	25.0	28.0	27.0	24.0
17	20.0	14.0	3.0	10.0	11.0	15.0	17.0	22.0	24.0	28.0	28.0	24.0
18	22.0	15.0	4.0	10.0	12.0	17.0	16.0	19.0	24.0	27.0	28.0	25.0
19	21.0	18.0	3.0	10.0	13.0	15.0	18.0	18.0	23.0	27.0	27.0	25.0
20	20.0	15.0	3.0	8.0	14.0	13.0	16.0	19.0	24.0	27.0	27.0	24.0
21	20.0	13.0	3.0	10.0	12.0	12.0	16.0	19.0	26.0	28.0	27.0	24.0
22	20.0	12.0	4.0	10.0	11.0	11.0	17.0	19.0	26.0	27.0	26.0	25.0
23	21.0	13.0	5.0	8.0	10.0	13.0	16.0	22.0	27.0	27.0	26.0	25.0
24	21.0	14.0	6.0	9.0	11.0	15.0	18.0	22.0	26.0	28.0	26.0	25.0
25	21.0	14.0	4.0	8.0	11.0	16.0	19.0	21.0	25.0	28.0	26.0	25.0
26	20.0	16.0	2.0	8.0	13.0	17.0	20.0	21.0	26.0	28.0	26.0	25.0
27	19.0	16.0	3.0	5.0	14.0	17.0	20.0	21.0	26.0	29.0	26.0	26.0
28	19.0	10.0	3.0	5.0	12.0	17.0	18.0	20.0	27.0	29.0	25.0	26.0
29	17.0	9.0	3.0	7.0	---	18.0	19.0	21.0	27.0	28.0	23.0	26.0
30	16.0	10.0	4.0	7.0	---	19.0	20.0	22.0	27.0	28.0	22.0	26.0
31	14.0	---	7.0	9.0	---	20.0	---	23.0	---	28.0	22.0	---
MEAN	19.0	14.0	5.5	6.5	10.0	15.0	18.5	21.0	24.5	27.5	26.0	24.0

07343000 NORTH SULPHUR RIVER NEAR COOPER, TX

LOCATION.--Lat 33°28'29", long 95°35'15", Lamar County, Hydrologic Unit 11140301, on left bank at downstream side of highway embankment near left end of downstream bridge on State Highways 19 and 24, 2.3 mi upstream from Auds Creek, 5.5 mi upstream from Hickory Creek, 8.7 mi northeast of Cooper, and 15.6 mi upstream from mouth.

DRAINAGE AREA.--276 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1949 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 372.42 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Nov. 8, 1949, nonrecording gage, Nov. 8, 1949, to May 21, 1960, water-stage recorder at site 50 ft upstream at datum 9.00 ft higher, and May 22, 1960, to Sept. 30, 1970, at datum 5.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. In 1928-29, the channel was rectified for a distance of 28 mi upstream and 18 mi downstream from this station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--37 years, 236 ft^3/s (11.61 in/yr), 171,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90,600 ft^3/s Oct. 19, 1971 (gage height, 36.16 ft, from floodmarks); no flow at times most years.

Maximum stage since at least 1915, that of Oct. 19, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 2, 1944, reached a stage of 35.6 ft, present datum, and flood in 1932 reached about same stage, from information by U.S. Army Corps of Engineers and local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 4	0330	*16,800	*17.22				

Minimum daily discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.32	32	1800	18	7.2	13	6.8	20	21	4.7	.00	.00
2	.16	14	161	17	7.2	13	7.1	24	170	3310	.00	.00
3	.47	7.2	58	15	988	12	17	16	2290	447	.00	.00
4	.52	3.4	39	15	2020	12	6190	12	170	80	.00	1.7
5	.30	1.8	29	14	277	12	2220	9.1	215	35	.00	1250
6	.17	1.2	21	12	5500	11	273	8.8	345	20	.00	358
7	.07	.72	18	12	499	10	108	8.6	139	14	.00	140
8	.00	.40	16	11	361	9.4	66	13	204	11	.00	28
9	.00	.34	14	10	183	9.9	47	15	45	8.2	.00	8.6
10	.00	.34	1500	9.9	138	33	34	50	24	5.9	.00	1.6
11	.00	4.8	4750	9.9	26	57	28	338	3760	4.2	.00	.38
12	.00	65	472	10	63	183	28	77	291	3.0	.00	.00
13	.00	19	150	9.9	48	63	27	27	68	1.9	.00	.00
14	.06	11	48	9.9	48	34	22	15	31	1.6	.00	.00
15	.39	3700	46	9.9	44	35	17	11	19	1.6	.00	.00
16	.48	614	38	9.4	40	84	14	8.5	1470	.00	.00	.00
17	.70	1870	31	10	36	39	14	2070	1060	.00	.00	.00
18	22	1360	27	13	32	36	15	1800	117	.00	.00	.00
19	1460	697	21	13	29	67	2550	366	199	.00	.00	.00
20	221	147	18	13	26	26	1780	92	44	.00	.00	.00
21	33	44	18	12	23	17	183	43	18	.00	.00	.00
22	13	29	18	11	21	14	68	27	16	.00	.00	.00
23	6.0	22	17	9.4	20	13	42	19	16	.00	.00	.00
24	2.6	21	14	8.1	19	12	31	19	273	.00	.00	.00
25	40	24	9.4	8.5	17	11	23	32	92	.00	.00	.00
26	31	889	6.0	7.6	16	9.4	21	25	62	.00	.00	.00
27	9.4	3360	11	5.6	16	9.8	27	6.4	20	.00	.00	.00
28	7.2	389	10	6.4	14	9.9	30	3600	94	.00	.00	.00
29	1600	100	14	6.8	---	9.6	19	492	19	.00	.00	.27
30	390	78	17	6.4	---	8.2	17	90	8.3	.00	.00	1.2
31	149	---	18	6.0	---	7.8	---	37	---	.00	.00	---
TOTAL	3987.84	13505.20	9409.4	329.7	10518.4	881.0	13924.9	9371.4	11300.3	3948.10	.00	1789.75
MEAN	129	450	304	10.6	376	28.4	464	302	377	127	.00	59.7
MAX	1600	3700	4750	18	5500	183	6190	3600	3760	3310	.00	1250
MIN	.00	.34	6.0	5.6	7.2	7.8	6.8	6.4	8.3	.00	.00	.00
CFSM	.47	1.63	1.10	.04	1.36	.10	1.68	1.09	1.37	.46	.00	.22
IN.	.54	1.82	1.27	.04	1.42	.12	1.88	1.26	1.52	.53	.00	.24
AC-FT	7910	26790	18660	654	20860	1750	27620	18590	22410	7830	.00	3550

CAL YR 1985 TOTAL 101904.01 MEAN 279 MAX 6480 MIN .00 CFSM 1.01 IN. 13.73 AC-FT 202
WTR YR 1986 TOTAL 78965.99 MEAN 216 MAX 6190 MIN .00 CFSM .78 IN. 10.64 AC-FT 156

07343000 NORTH SULPHUR RIVER NEAR COOPER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: July 1950 to September 1958, October 1967 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1968 to current year.
WATER TEMPERATURES: October 1968 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,320 microsiemens Oct. 24, 1983; minimum daily, 191 microsiemens Oct. 12, Dec. 10, 1971.
WATER TEMPERATURES: Maximum daily, 39.0°C June 1, 1977; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,280 microsiemens Oct. 14; minimum daily, 252 microsiemens Nov. 28.
WATER TEMPERATURES: Maximum daily, 30.0°C June 22, 26; minimum daily, 1.0°C Dec. 13, 14, 15, 26, Feb. 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
NOV								
18...	1359	1360	316	130	25	45	3.1	17
FEB								
18...	1700	32	755	250	85	87	8.4	54
MAR								
31...	1615	8.2	848	240	110	79	10	79
MAY								
19...	1655	369	414	160	44	58	3.9	21
JUL								
07...	1840	8.7	508	160	51	55	5.2	39

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
NOV								
18...	0.7	2.8	100	43	15	0.4	10	200
FEB								
18...	2	2.9	167	150	35	0.4	6.9	440
MAR								
31...	2	3.0	130	200	56	0.4	1.2	510
MAY								
19...	0.8	3.1	117	52	10	0.4	9.2	230
JUL								
07...	1	3.9	108	110	24	0.5	9.1	310

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	3987.84	379	230	2480	17	178	84	903	130
NOV. 1985	13505.20	348	210	7660	14	499	75	2740	120
DEC. 1985	9409.4	344	208	5270	14	348	74	1890	120
JAN. 1986	329.7	899	561	499	60	53	220	198	280
FEB. 1986	10518.4	393	238	6770	17	480	87	2460	130
MAR. 1986	881.0	691	426	1010	39	94	160	389	220
APR. 1986	13924.9	353	213	8020	14	530	77	2880	120
MAY 1986	9371.4	454	276	6980	21	519	100	2560	150
JUNE 1986	11300.3	387	234	7150	16	494	85	2590	130
JULY 1986	3948.10	352	212	2260	14	146	76	809	120
AUG. 1986	0.00	*	*	0.00	*	0.00	*	0.00	*
SEPT 1986	1789.75	566	346	1670	29	138	130	626	180
TOTAL	78965.99	**	**	49800	**	3480	**	18000	**
WTD.AVG.	216	385	233	**	16	**	85	**	130

07343000 NORTH SULPHUR RIVER NEAR COOPER, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2160	490	301	843	1050	840	870	746	833	562		---
2	2190	526	364	847	1040	862	876	742	767	342		---
3	2180	579	461	856	610	906	850	759	526	375		---
4	2200	637	515	858	387	901	313	797	366	400		1780
5	2220	667	583	848	452	909	393	817	345	447		625
6	2230	693	627	856	305	920	517	858	320	457		423
7	2250	723	668	880	380	912	574	889	495	496		382
8	---	741	694	871	485	967	639	902	403	540		545
9	---	768	693	876	529	985	695	915	446	584		639
10	---	799	440	878	574	900	726	709	508	618		647
11	---	807	288	992	626	803	730	550	305	667		660
12	---	662	350	883	660	577	719	405	364	700		---
13	---	654	441	900	685	595	720	500	449	725		---
14	2280	663	521	895	723	625	715	558	501	762		---
15	2250	365	573	908	742	663	755	615	517	799		---
16	2260	320	622	893	729	550	797	648	365	---		---
17	2270	300	656	909	731	658	832	400	340	---		---
18	2090	344	680	920	741	664	845	368	410	---		---
19	375	358	709	903	774	656	305	387	460	---		---
20	426	415	725	890	762	706	354	478	348	---		---
21	559	485	745	880	747	686	430	558	445	---		---
22	648	537	767	887	770	704	532	591	510	---		---
23	752	579	777	904	786	731	600	601	562	---		---
24	773	609	787	920	801	762	620	619	336	---		---
25	939	638	805	924	800	788	633	614	360	---		---
26	630	510	825	958	811	800	625	607	428	---		---
27	518	298	841	978	808	823	630	629	430	---		---
28	529	252	837	1000	815	845	653	450	350	---		---
29	323	435	846	1020	---	840	664	743	383	---		733
30	366	510	855	1030	---	852	716	773	477	---		760
31	394	---	837	1050	---	867	---	807	---	---		---
MEAN	1350	545	640	912	690	784	644	646	445	565		719

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	14.0	8.0	9.0	13.0	12.0	18.0	21.0	23.0	27.0		---
2	20.0	13.0	---	5.0	11.0	10.0	18.0	18.0	23.0	24.0		---
3	21.0	10.0	3.0	5.0	16.0	15.0	17.0	19.0	24.0	---		---
4	20.0	15.0	5.0	7.0	15.0	14.0	16.0	25.0	23.0	26.0		24.0
5	20.0	16.0	5.0	5.0	13.0	16.0	18.0	23.0	23.0	26.0		21.0
6	19.0	12.0	9.0	6.0	9.0	15.0	26.0	21.0	---	27.0		---
7	21.0	16.0	11.0	7.0	7.0	18.0	21.0	22.0	24.0	27.0		22.0
8	---	10.0	12.0	3.0	6.0	17.0	22.0	23.0	24.0	27.0		21.0
9	---	15.0	11.0	4.0	4.0	15.0	16.0	22.0	25.0	28.0		23.0
10	---	18.0	15.0	4.0	4.0	16.0	18.0	28.0	26.0	28.0		29.0
11	---	15.0	6.0	9.0	4.0	15.0	19.0	20.0	22.0	27.0		25.0
12	---	19.0	---	6.0	4.0	14.0	18.0	21.0	23.0	28.0		---
13	---	19.0	1.0	6.0	1.0	19.0	23.0	24.0	25.0	26.0		---
14	25.0	19.0	1.0	6.0	5.0	14.0	20.0	24.0	26.0	26.0		---
15	24.0	16.0	1.0	8.0	10.0	18.0	15.0	21.0	26.0	27.0		---
16	23.0	10.0	5.0	10.0	11.0	16.0	19.0	22.0	24.0	---		---
17	21.0	13.0	5.0	11.0	14.0	18.0	16.0	19.0	21.0	---		---
18	---	19.0	---	11.0	13.0	19.0	14.0	17.0	24.0	---		---
19	20.0	19.0	4.0	12.0	13.0	10.0	18.0	15.0	24.0	---		---
20	20.0	19.0	---	8.0	14.0	10.0	14.0	18.0	25.0	---		---
21	22.0	8.0	---	10.0	10.0	15.0	16.0	20.0	27.0	---		---
22	24.0	9.0	5.0	11.0	7.0	9.0	15.0	21.0	30.0	---		---
23	24.0	12.0	7.0	7.0	14.0	13.0	17.0	22.0	27.0	---		---
24	25.0	16.0	6.0	---	10.0	19.0	---	24.0	29.0	---		---
25	24.0	15.0	---	7.0	11.0	21.0	20.0	20.0	27.0	---		---
26	20.0	19.0	1.0	9.0	13.0	15.0	22.0	20.0	30.0	---		---
27	17.0	12.0	3.0	8.0	14.0	16.0	21.0	22.0	25.0	---		---
28	17.0	7.0	5.0	---	11.0	24.0	16.0	21.0	---	---		---
29	14.0	7.0	7.0	6.0	---	18.0	20.0	23.0	25.0	---		29.0
30	14.0	9.0	5.0	14.0	---	18.0	21.0	24.0	27.0	---		25.0
31	16.0	---	9.0	11.0	---	19.0	---	25.0	---	---		---
MEAN	20.5	14.0	6.0	8.0	10.0	15.5	18.5	21.5	25.0	26.5		24.5

07343200 SULPHUR RIVER NEAR TALCO, TX

LOCATION.--Lat 33°23'10", long 95°07'56", Franklin County, Hydrologic Unit 11140302, at downstream side of highway embankment near right end of bridge on U.S. Highway 271, 2.2 mi northwest of Talco, 3.2 mi downstream from Mustang Creek, and 162 mi upstream from mouth.

DRAINAGE AREA.--1,365 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1956 to current year.

REVISED RECORDS.--WDR TX-76-1(P).

GAGE.--Water-stage recorder. Datum of gage is 290.82 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. The River Crest Steam Electric Generating Plant diverts water for cooling purposes upstream from this station. Flow is also affected at times by the discharge from flood-detention pools of 14 floodwater-retarding structures with a combined detention capacity of 8,210 acre-ft. These structures control runoff from 23.4 mi² in the Auds and Depot Creek drainage basins. Gage-height telemeter at station.

AVERAGE DISCHARGE.--30 years, 1,402 ft³/s (13.95 in/yr), 1,016,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,000 ft³/s Dec. 11, 1971 (gage height, 29.40 ft, from floodmark); no flow at times in 1957, 1964-65, 1970, and 1979-80.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in 1908 and 1914 each reached a stage of 27.5 ft, and flood in 1945 reached a stage of 26.5 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 12	0600	18,000	24.07	No other peak greater than base discharge.			

Minimum daily discharge, 0.05 ft³/s Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	658	4760	48	10	47	20	266	867	173	3.6	3.9
2	.06	344	4100	44	10	41	19	281	1340	840	3.3	3.5
3	.08	180	1520	42	194	39	19	188	2190	10400	3.1	3.3
4	.09	95	684	37	7870	37	5060	133	2050	6930	3.3	3.1
5	.10	56	356	36	10500	35	12300	108	4860	2290	3.5	7.4
6	.13	37	242	32	9150	35	9370	89	7460	697	3.4	1180
7	.21	27	249	29	11500	33	7340	73	4310	342	2.9	1050
8	.28	18	233	28	7860	29	8130	61	3600	188	2.6	833
9	.32	13	209	27	5980	28	6200	56	3460	113	2.4	519
10	.32	7.7	276	25	3200	29	1530	56	1910	72	2.1	246
11	.35	34	9200	23	985	53	467	392	1950	52	2.0	142
12	.35	441	17100	22	525	114	346	1010	7550	41	1.8	104
13	.35	1060	12200	22	356	216	265	599	4860	32	1.8	79
14	.37	858	11000	21	266	138	239	252	5010	26	1.8	59
15	.40	453	7220	21	212	93	202	143	4530	21	1.8	42
16	.40	3030	2230	20	176	128	119	95	1490	17	2.0	31
17	.43	3590	638	19	150	342	85	170	2270	14	1.9	27
18	.62	7050	445	19	134	233	80	5140	1030	12	1.9	33
19	101	7290	362	20	132	134	359	8930	853	10	1.8	20
20	953	5800	308	22	122	127	6870	5410	633	9.1	1.6	14
21	457	4130	268	22	100	74	8550	3340	337	7.8	1.5	12
22	414	1630	240	21	88	52	4140	1340	196	6.8	1.8	16
23	184	436	207	19	77	43	1810	357	125	6.3	1.9	16
24	84	269	149	17	69	39	587	233	160	6.4	2.0	11
25	48	393	101	15	62	36	354	251	298	7.3	2.0	9.1
26	43	846	76	14	57	31	236	276	233	7.2	1.7	8.3
27	71	2900	62	14	53	29	176	184	281	6.3	1.6	8.1
28	37	8640	59	13	45	27	196	113	414	5.6	1.5	7.9
29	315	5960	54	11	---	25	329	80	504	5.0	1.3	7.1
30	1010	5330	53	10	---	25	343	66	307	4.2	1.1	5.7
31	846	---	49	10	---	22	---	284	---	3.9	2.6	---
TOTAL	4567.92	61575.7	74650	723	59883	2334	75741	29976	65078	22345.9	67.6	4501.4
MEAN	147	2053	2408	23.3	2139	75.3	2525	967	2169	721	2.18	150
MAX	1010	8640	17100	48	11500	342	12300	8930	7550	10400	3.6	1180
MIN	.06	7.7	49	10	10	22	19	56	125	3.9	1.1	3.1
CFSM	.11	1.50	1.76	.02	1.57	.06	1.85	.71	1.59	.53	.00	.11
IN.	.12	1.68	2.03	.02	1.63	.06	2.06	.82	1.77	.61	.00	.12
AC-FT	9060	122100	148100	1430	118800	4630	150200	59460	129100	44320	134	8930

CAL YR 1985 TOTAL 413216.92 MEAN 1132 MAX 17100 MIN .01 CFSM .83 IN. 11.26 AC-FT 819600
WTR YR 1986 TOTAL 401443.52 MEAN 1100 MAX 17100 MIN .06 CFSM .81 IN. 10.94 AC-FT 796300

07343200 SULPHUR RIVER NEAR TALCO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: January 1965 to current year. Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: January 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1966 to current year.
WATER TEMPERATURES: October 1966 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,800 microsiemens Feb. 17, 1976; minimum daily, 100 microsiemens Sept. 11, 1974
WATER TEMPERATURES: Maximum daily, 38.0°C Aug. 15, 1975; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 995 microsiemens Oct. 17; minimum daily, 142 microsiemens June 3.
WATER TEMPERATURES: Maximum daily, 32.0°C July 31; minimum daily, 3.0°C Dec. 14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
OCT 09...	1055	0.33	741	--	18.5	--	--	--	--	--	--	--
NOV 20...	1210	5930	190	7.80	13.0	70	140	7.9	74	2.2	77	4
FEB 20...	0915	123	489	7.80	15.0	45	42	--	--	1.0	190	34
APR 02...	1315	19	808	7.90	20.0	10	11	7.6	85	1.0	270	58
MAY 21...	1530	3320	247	7.80	20.0	100	100	8.4	93	3.2	99	5
JUL 09...	1430	107	310	7.60	30.0	15	72	5.1	--	1.7	110	8
AUG 27...	1208	1.4	838	7.80	28.5	10	7.3	4.7	--	1.2	290	29

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 09...	--	--	--	--	--	281	--	--	--	--	--
NOV 20...	27	2.3	8.9	0.5	3.8	73	21	4.4	0.2	10	120
FEB 20...	66	5.6	29	1	3.8	154	70	21	0.2	8.9	300
APR 02...	94	8.6	63	2	3.7	212	140	44	0.4	3.3	480
MAY 21...	35	2.8	11	0.5	4.2	94	25	5.9	0.3	11	150
JUL 09...	41	3.0	16	0.7	4.5	107	28	9.2	0.3	9.2	180
AUG 27...	100	8.9	61	2	4.5	257	110	50	0.4	9.6	500

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)
OCT 09...	--	--	--	--	--	--	--	--	--	--	--
NOV 20...	178	16	0.26	0.04	0.30	0.08	0.92	1.0	0.29	8.3	--
FEB 20...	67	6	0.96	0.04	1.00	0.08	0.82	0.9	0.15	9.9	3
APR 02...	23	6	--	<0.01	<0.10	0.09	0.61	0.7	0.03	8.0	--
MAY 21...	272	32	4.21	0.09	4.30	0.07	1.1	1.2	0.33	16	--
JUL 09...	--	18	0.35	0.05	0.40	0.12	0.68	0.8	0.10	--	4
AUG 27...	3	1	--	<0.01	<0.10	0.03	0.57	0.6	0.03	7.3	--

07343200 SULPHUR RIVER NEAR TALCO, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT											
09...	--	--	--	--	--	--	--	--	--	--	--
NOV											
20...	--	--	--	--	--	--	--	--	--	--	--
FEB											
20...	71	<1	<10	4	190	6	45	0.1	1	<1	10
APR											
02...	--	--	--	--	--	--	--	--	--	--	--
MAY											
21...	--	--	--	--	--	--	--	--	--	--	--
JUL											
09...	60	<1	<10	3	27	<5	22	<0.1	<1	<1	30
AUG											
27...	--	--	--	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	4567.92	404	238	2930	17	207	49	600	150
NOV. 1985	61575.7	216	125	20800	6.6	1100	21	3550	84
DEC. 1985	74650	182	105	21200	5.3	1070	18	3530	71
JAN. 1986	723	806	489	954	50	98	130	253	260
FEB. 1986	59883	260	151	24500	8.8	1420	27	4420	99
MAR. 1986	2334	638	382	2410	35	219	93	584	220
APR. 1986	75741	248	144	29500	8.1	1650	25	5210	95
MAY 1986	29976	298	174	14100	10	849	32	2600	110
JUNE 1986	65078	236	138	24200	7.6	1340	24	4240	91
JULY 1986	22345.9	214	124	7500	6.6	397	21	1280	83
AUG. 1986	67.6	718	433	79	42	7.6	110	20	240
SEPT 1986	4501.4	360	211	2570	14	172	42	506	130
TOTAL	401443.52	**	**	151000	**	8530	**	26800	**
WTD.AVG.	1100	239	139	**	7.9	**	25	**	92

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	775	281	208	630	969	700	739	318	247	283	686	736
2	885	295	241	672	960	713	755	327	222	221	587	832
3	863	292	254	713	825	718	827	358	142	207	568	831
4	901	310	276	706	291	742	252	401	373	199	624	751
5	787	320	299	730	209	785	207	400	231	215	575	628
6	743	332	323	748	308	803	257	437	220	252	693	480
7	920	345	320	778	236	828	263	457	217	281	737	358
8	840	361	321	808	210	809	188	476	205	286	641	272
9	916	365	332	802	227	790	236	507	226	311	728	271
10	924	385	315	819	264	837	273	509	231	368	664	289
11	857	375	198	831	308	871	283	475	394	368	742	313
12	978	275	158	850	342	857	308	355	254	386	684	302
13	809	232	151	845	371	761	332	319	192	411	682	310
14	981	180	150	855	405	748	351	363	191	441	691	326
15	976	272	155	854	422	653	445	407	202	460	797	337
16	978	245	179	849	455	584	427	430	271	485	714	348
17	995	238	224	841	498	520	450	378	234	497	713	366
18	958	229	255	854	527	441	489	340	315	513	820	371
19	810	175	265	870	521	455	425	275	307	542	794	376
20	495	201	304	877	513	511	282	250	334	552	744	395
21	486	216	297	878	529	575	250	259	347	553	708	408
22	326	257	313	884	560	597	246	280	336	580	827	422
23	369	272	333	890	589	628	267	299	376	593	798	424
24	354	296	372	895	623	654	298	315	396	613	812	430
25	364	275	428	906	648	666	309	338	303	610	816	429
26	368	253	500	917	659	676	331	377	348	606	825	432
27	355	240	532	930	672	691	369	339	347	603	775	445
28	407	219	557	937	695	709	408	375	310	625	827	456
29	380	187	582	941	---	734	466	399	281	643	858	465
30	350	190	612	951	---	753	368	418	275	660	866	475
31	337	---	627	960	---	783	---	360	---	655	835	---
MEAN	693	270	325	839	494	697	370	372	278	452	736	443

07343200 SULPHUR RIVER NEAR TALCO, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	15.0	8.0	6.0	13.0	12.0	21.0	20.0	22.0	30.0	30.0	22.0
2	18.0	14.0	8.0	7.0	14.0	---	20.0	21.0	22.0	25.0	29.0	23.0
3	20.0	13.0	7.0	7.0	---	15.0	21.0	22.0	24.0	28.0	27.0	25.0
4	20.0	14.0	7.0	7.0	16.0	16.0	18.0	20.0	24.0	25.0	29.0	25.0
5	17.0	14.0	8.0	6.0	16.0	16.0	18.0	23.0	24.0	26.0	28.0	23.0
6	14.0	15.0	8.0	6.0	11.0	16.0	19.0	23.0	25.0	27.0	28.0	21.0
7	18.0	14.0	8.0	7.0	11.0	17.0	22.0	24.0	24.0	29.0	29.0	23.0
8	19.0	14.0	8.0	6.0	---	16.0	22.0	24.0	24.0	30.0	29.0	24.0
9	21.0	15.0	11.0	6.0	7.0	16.0	21.0	24.0	25.0	30.0	27.0	24.0
10	20.0	---	---	6.0	6.0	19.0	21.0	23.0	26.0	30.0	27.0	25.0
11	23.0	16.0	10.0	5.0	5.0	17.0	20.0	22.0	25.0	30.0	29.0	26.0
12	23.0	17.0	8.0	8.0	4.0	18.0	19.0	23.0	25.0	29.0	29.0	26.0
13	21.0	16.0	5.0	8.0	4.0	18.0	20.0	25.0	25.0	29.0	29.0	24.0
14	23.0	---	3.0	8.0	5.0	18.0	22.0	25.0	24.0	31.0	29.0	23.0
15	21.0	16.0	8.0	8.0	5.0	17.0	22.0	26.0	25.0	31.0	29.0	26.0
16	21.0	13.0	4.0	9.0	8.0	16.0	21.0	26.0	26.0	31.0	26.0	24.0
17	21.0	15.0	5.0	10.0	12.0	16.0	19.0	22.0	23.0	31.0	27.0	26.0
18	21.0	17.0	5.0	10.0	13.0	18.0	19.0	19.0	26.0	30.0	30.0	27.0
19	20.0	---	5.0	9.0	15.0	17.0	19.0	19.0	26.0	30.0	30.0	26.0
20	---	15.0	5.0	11.0	16.0	16.0	15.0	20.0	27.0	29.0	30.0	---
21	21.0	13.0	4.0	12.0	15.0	16.0	18.0	20.0	27.0	31.0	29.0	25.0
22	21.0	14.0	5.0	11.0	13.0	14.0	18.0	22.0	27.0	29.0	28.0	26.0
23	21.0	13.0	7.0	10.0	13.0	14.0	18.0	23.0	30.0	30.0	26.0	27.0
24	23.0	14.0	7.0	10.0	15.0	17.0	20.0	23.0	30.0	30.0	26.0	27.0
25	23.0	16.0	5.0	9.0	15.0	18.0	20.0	27.0	28.0	31.0	28.0	26.0
26	20.0	17.0	5.0	9.0	16.0	19.0	21.0	22.0	28.0	28.0	29.0	26.0
27	20.0	15.0	6.0	7.0	15.0	20.0	22.0	23.0	28.0	29.0	27.0	25.0
28	19.0	10.0	5.0	8.0	13.0	20.0	22.0	24.0	28.0	31.0	27.0	25.0
29	19.0	10.0	5.0	10.0	---	19.0	22.0	25.0	27.0	31.0	27.0	26.0
30	15.0	10.0	5.0	10.0	---	19.0	21.0	25.0	30.0	31.0	21.0	26.0
31	15.0	---	7.0	---	---	22.0	---	25.0	---	32.0	---	---
MEAN	20.0	14.5	6.5	8.0	11.5	17.0	20.0	23.0	26.0	29.5	28.0	25.0

07343500 WHITE OAK CREEK NEAR TALCO, TX

LOCATION.--Lat 33°19'20", long 95°05'33", Titus County, Hydrologic Unit 11140300, near center of main channel at downstream side of bridge on U.S. Highway 271, 0.8 mi downstream from Lewis Creek, 2.4 mi upstream from Ripley Creek, 2.7 mi south of Talco, and 38.4 mi upstream from mouth.

DRAINAGE AREA.--494 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1949 to current year.

REVISED RECORDS.--WSP 1711: Elevation of historical maximum.

GAGE.--Water-stage recorder. Datum of gage is 286.45 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. There are several small diversions above station for municipal supply. The cities of Sulphur Springs and Mount Vernon discharged sewage effluent into tributaries above this station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--36 years (water years 1951-86), 444 ft³/s (12.21 in/yr), 321,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,000 ft³/s Dec. 11, 1971 (gage height, 21.20 ft), from rating curve extended above 23,000 ft³/s; no flow at times in 1954, 1956, 1964-65, 1969-73, 1976, and 1978-79.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1870, 22.9 ft Mar. 31, 1945, from floodmarks and from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 13	0330	*14,300	*18.41	Apr. 7	0630	13,300	18.32
Feb. 6	1500	9,550	17.94				

Minimum discharge, 0.22 ft³/s Sept. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	38	765	45	14	44	19	539	319	48	5.7	.27
2	1.7	46	659	42	14	46	16	972	406	198	4.9	.28
3	1.5	36	402	40	103	41	15	1010	1500	263	4.1	.26
4	1.2	29	278	38	1480	36	146	1010	1750	111	3.0	.53
5	.90	23	173	36	3580	35	872	796	1730	72	2.5	2.9
6	.66	16	96	34	8340	33	1850	601	1460	57	2.2	6.5
7	.45	12	64	33	7780	31	11400	264	1500	42	1.7	18
8	.47	9.0	48	31	5560	30	6660	132	1540	33	1.3	32
9	1.6	7.3	39	29	4130	29	4040	98	1920	29	2.1	55
10	2.2	5.9	52	27	3030	29	2560	84	2140	24	8.2	35
11	2.2	6.3	2400	27	2100	27	1520	81	1470	21	7.5	20
12	1.9	17	10400	25	1200	28	626	101	748	19	6.4	13
13	1.8	90	12600	23	586	30	272	125	853	17	5.8	9.0
14	1.7	124	7580	23	335	40	246	117	837	16	4.9	7.2
15	1.7	154	4460	22	220	47	219	82	709	15	3.9	6.1
16	1.6	117	2940	22	175	52	149	60	462	14	3.6	5.8
17	1.6	197	1830	22	152	42	105	170	306	13	3.2	6.0
18	2.6	482	829	21	125	34	85	1000	244	12	2.6	4.5
19	3.9	600	289	21	111	30	235	1590	245	10	2.1	3.3
20	3.8	582	188	21	100	26	1930	2040	213	9.2	1.7	2.5
21	19	502	153	22	93	24	3200	2110	127	8.6	1.4	2.9
22	46	335	130	22	84	24	4130	2210	95	8.5	.82	3.3
23	46	136	112	20	73	23	3890	1710	75	7.4	.52	2.9
24	31	70	100	19	63	22	2700	790	63	7.0	.39	2.0
25	21	58	87	19	56	23	1860	358	55	6.5	.34	1.5
26	14	80	77	19	53	23	949	264	80	6.8	.30	1.1
27	9.5	287	69	17	50	23	292	169	65	14	.28	1.2
28	7.4	770	60	16	46	23	346	131	86	11	.30	1.5
29	7.3	925	52	15	---	22	473	102	70	9.0	.35	1.4
30	7.2	878	50	14	---	22	476	85	56	7.6	.36	1.1
31	14	---	49	14	---	21	---	89	---	6.7	.33	---
TOTAL	257.48	6632.5	47031	779	39653	960	51281	18890	21124	1116.3	82.79	247.04
MEAN	8.31	221	1517	25.1	1416	31.0	1709	609	704	36.0	2.67	8.23
MAX	46	925	12600	45	8340	52	11400	2210	2140	263	8.2	55
MIN	.45	5.9	39	14	14	21	15	60	55	6.5	.28	.26
CFSM	.02	.45	3.07	.05	2.87	.06	3.46	1.23	1.43	.07	.01	.02
IN.	.02	.50	3.54	.06	2.99	.07	3.86	1.42	1.59	.08	.01	.02
AC-FT	511	13160	93290	1550	78650	1900	101700	37470	41900	2210	164	490

CAL YR 1985 TOTAL 163229.40 MEAN 447 MAX 12600 MIN .06 CFSM .90 IN. 12.29 AC-FT 323800
WTR YR 1986 TOTAL 188054.11 MEAN 515 MAX 12600 MIN .26 CFSM 1.04 IN. 14.16 AC-FT 373000

07343500 WHITE OAK CREEK NEAR TALCO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1967 to current year. Chemical and biochemical analyses: October 1982 to September 1985.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to current year.
WATER TEMPERATURES: October 1967 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,220 micromhos June 15, 1972; minimum daily, 33 micromhos May 16, 1969.
WATER TEMPERATURES: Maximum daily, 37.0°C July 18, Aug. 3, 15, 1975, and Aug. 7, 1986; minimum daily, 0.0°C on several days during January 1968, 1970, 1978, and 1984.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 616 micromhos Oct. 13; minimum daily, 55 micromhos Dec. 12.
WATER TEMPERATURES: Maximum daily, 37.0°C Aug. 7; minimum daily, 4.0°C Dec. 14, 15.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT									
08...	1640	0.48	613	21.5	130	3	31	13	67
FEB									
20...	1045	100	253	--	59	32	14	5.8	20
APR									
02...	1040	16	452	--	99	25	23	10	45
MAY									
21...	1050	2110	90	--	27	12	6.8	2.4	5.6
JUL									
09...	1600	29	278	--	64	15	16	5.9	24
AUG									
27...	1550	0.28	515	--	110	9	27	11	54

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT								
08...	3	9.5	128	71	66	0.3	1.7	340
FEB								
20...	1	5.9	27	51	19	0.2	9.3	140
APR								
02...	2	7.5	74	82	44	0.3	1.1	260
MAY								
21...	0.5	5.5	15	19	7.3	0.1	7.8	63
JUL								
09...	1	7.3	49	43	24	0.3	7.6	160
AUG								
27...	2	8.2	104	65	51	0.3	3.7	280

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	257.48	444	255	177	48	33	66	46	100
NOV. 1985	6632.5	122	72	1290	10	179	21	370	31
DEC. 1985	47031	70	42	5270	5.2	656	12	1560	19
JAN. 1986	779	353	205	431	35	74	55	115	83
FEB. 1986	39653	89	53	5650	6.8	726	15	1660	23
MAR. 1986	960	432	249	645	46	118	65	168	99
APR. 1986	51281	84	50	6880	6.3	873	15	2020	22
MAY 1986	18890	113	67	3430	8.9	452	20	997	30
JUNE 1986	21124	108	64	3640	8.3	476	19	1060	28
JULY 1986	1116.3	197	115	348	17	52	32	98	49
AUG. 1986	82.79	418	241	54	43	9.7	63	14	96
SEPT 1986	247.04	444	256	171	47	32	66	44	100
TOTAL	188054.11	**	**	28000	**	3680	**	8150	**
WTD.AVG.	515	93	55	**	7.2	**	16	**	24

07343500 WHITE OAK CREEK NEAR TALCO, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	586	372	89	251	487	320	464	134	99	253	367	525
2	587	299	115	260	489	315	467	95	98	118	372	521
3	586	306	121	267	365	347	454	101	69	104	378	523
4	590	328	124	273	125	350	349	104	93	163	379	500
5	594	306	129	291	89	358	177	117	95	213	383	499
6	593	296	142	305	70	342	100	128	91	237	389	495
7	594	301	151	308	75	370	74	148	98	249	395	527
8	596	308	161	306	71	386	73	171	93	257	392	484
9	608	316	175	317	76	396	83	190	84	281	391	458
10	606	330	170	337	82	405	94	199	72	295	395	430
11	609	318	96	350	102	413	114	211	130	308	402	466
12	615	400	55	349	132	421	131	234	166	307	409	453
13	616	343	57	338	153	422	149	304	127	302	418	424
14	603	335	61	353	162	443	156	266	126	294	432	393
15	608	330	66	374	171	467	160	320	140	293	441	371
16	611	361	73	385	185	482	171	317	148	296	463	355
17	612	167	85	383	200	455	184	245	185	297	479	363
18	593	115	104	383	217	431	191	106	172	304	484	364
19	570	93	131	393	235	462	135	90	179	310	485	365
20	585	78	145	404	252	480	60	93	164	313	490	370
21	562	91	154	412	261	512	58	91	152	320	496	367
22	334	102	165	418	273	528	62	98	191	324	505	368
23	313	116	182	431	272	530	68	107	209	327	507	373
24	485	128	191	449	278	532	76	114	216	326	506	375
25	528	137	198	454	287	522	85	125	220	326	508	376
26	527	150	212	455	294	523	100	129	184	327	515	380
27	512	122	220	468	315	513	171	162	224	328	513	382
28	457	84	225	471	316	503	141	168	229	345	514	385
29	418	82	233	476	---	504	126	200	262	350	515	384
30	469	85	237	490	---	501	135	202	231	357	520	385
31	334	---	252	487	---	490	---	203	---	362	525	---
MEAN	545	227	146	375	216	443	160	167	152	287	451	422

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	15.0	10.0	6.0	13.0	11.0	20.0	20.0	22.0	29.0	31.0	24.0
2	19.0	14.0	8.0	7.0	13.0	---	20.0	20.0	22.0	25.0	29.0	24.0
3	19.0	14.0	7.0	7.0	---	14.0	20.0	20.0	23.0	27.0	28.0	26.0
4	19.0	14.0	8.0	7.0	15.0	14.0	18.0	19.0	23.0	25.0	31.0	26.0
5	19.0	13.0	8.0	6.0	16.0	15.0	18.0	21.0	24.0	26.0	29.0	24.0
6	16.0	14.0	8.0	6.0	12.0	15.0	20.0	22.0	25.0	27.0	30.0	28.0
7	19.0	14.0	9.0	10.0	11.0	16.0	23.0	22.0	25.0	29.0	37.0	23.0
8	19.0	14.0	9.0	6.0	9.0	15.0	22.0	23.0	25.0	29.0	30.0	25.0
9	21.0	14.0	11.0	6.0	8.0	15.0	21.0	24.0	25.0	30.0	28.0	25.0
10	21.0	---	---	6.0	6.0	18.0	20.0	23.0	26.0	30.0	28.0	25.0
11	23.0	15.0	10.0	5.0	5.0	17.0	19.0	22.0	26.0	30.0	30.0	26.0
12	22.0	17.0	7.0	8.0	5.0	18.0	19.0	24.0	26.0	28.0	30.0	28.0
13	21.0	19.0	5.0	7.0	5.0	18.0	19.0	24.0	26.0	29.0	30.0	24.0
14	23.0	---	4.0	8.0	6.0	18.0	21.0	24.0	25.0	31.0	29.0	23.0
15	21.0	17.0	4.0	8.0	6.0	16.0	20.0	25.0	25.0	31.0	28.0	28.0
16	22.0	15.0	5.0	9.0	9.0	15.0	19.0	25.0	25.0	32.0	27.0	24.0
17	22.0	15.0	5.0	10.0	13.0	17.0	17.0	20.0	26.0	32.0	27.0	23.0
18	21.0	16.0	5.0	10.0	---	18.0	18.0	19.0	26.0	33.0	31.0	27.0
19	20.0	17.0	5.0	10.0	---	17.0	18.0	20.0	26.0	31.0	30.0	26.0
20	---	15.0	5.0	12.0	16.0	16.0	17.0	20.0	27.0	29.0	32.0	---
21	21.0	14.0	5.0	12.0	14.0	15.0	18.0	21.0	26.0	31.0	29.0	25.0
22	22.0	14.0	6.0	11.0	12.0	13.0	18.0	22.0	26.0	29.0	30.0	27.0
23	22.0	14.0	7.0	11.0	12.0	14.0	19.0	23.0	29.0	31.0	27.0	27.0
24	23.0	15.0	7.0	10.0	14.0	18.0	20.0	22.0	29.0	32.0	27.0	27.0
25	23.0	16.0	5.0	9.0	14.0	18.0	21.0	22.0	28.0	32.0	30.0	28.0
26	21.0	18.0	5.0	9.0	16.0	19.0	21.0	21.0	28.0	28.0	30.0	27.0
27	19.0	15.0	6.0	9.0	15.0	20.0	21.0	23.0	28.0	29.0	28.0	25.0
28	18.0	12.0	5.0	8.0	13.0	20.0	21.0	24.0	29.0	32.0	28.0	26.0
29	18.0	10.0	6.0	9.0	---	19.0	21.0	24.0	27.0	32.0	28.0	28.0
30	16.0	10.0	5.0	9.0	---	19.0	21.0	25.0	28.0	32.0	23.0	28.0
31	16.0	---	10.0	10.0	---	22.0	---	23.0	---	32.0	---	---
MEAN	20.0	14.5	6.5	8.5	11.0	16.5	19.5	22.0	26.0	30.0	29.0	26.0

07344200 WRIGHT PATMAN LAKE NEAR TEXARKANA, TX

LOCATION.--Lat 33°18'16", long 94°09'38", Bowie-Cass County line, Hydrologic Unit 11140302, in intake structure of Wright Patman Dam on the Sulphur River, 0.5 mi upstream from U.S. Highway 59, 10 mi southwest of Texarkana, and 44.5 mi upstream from mouth.

DRAINAGE AREA.--3,443 mi^2.

PERIOD OF RECORD.--July 1953 to current year. Published as Texarkana Reservoir prior to October 1970 and as Lake Texarkana from October 1970 to September 1972.

REVISED RECORDS.--WSP 1561: 1957(M). WSP 1711: 1959(M).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). July 19 to Dec. 31, 1953, nonrecording gage at site about 125 ft upstream at datum 200 ft higher.

REMARKS.--The lake is formed by a rolled earthfill dam 18,500 ft long, including a 200-foot uncontrolled spillway and a 1-mile long dike. Temporary impoundment of water began July 2, 1953, and deliberate impoundment began June 27, 1956. The dam was completed in December 1957. The flood-control outlet works consist of two 20.0-foot-diameter conduits controlled by four 10.0- by 20.0-foot electrically driven broome-type gates. Flow is affected at times by discharge from the flood-detention pools of 25 floodwater-retarding structures with a combined detention capacity of 13,450 acre-ft. These structures control runoff from 40.0 mi^2 in the Sulphur River and Langford Creek drainage basins. Outflow discharging over the spillway passes into an outlet channel and then to the Sulphur River. The lake was built for flood control and for conservation. An unknown amount of water is diverted for industrial and municipal uses. The capacity table is based on a 1948 survey. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	286.0	-
Crest of spillway...	259.5	2,654,300
Top of conservation pool..	220.0	145,300
Lowest gated outlet (invert)..	200.0	2,600

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,912,100 acre-ft May 9, 1966 (elevation, 252.64 ft); minimum since first appreciable storage and after deliberate impoundment began, 137,500 acre-ft Sept. 5, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 396,800 acre-ft May 30 at 0600 hours (elevation, 228.92 ft); minimum daily, 163,200 acre-ft Jan. 30 at 1100 hours (elevation, 220.85 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

220.0	145,300	224.0	240,200	228.0	364,100
222.0	189,300	226.0	298,800	230.0	437,200

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0700

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	250700	207800	191400	242900	163400	218200	178300	366200	386000	328400	309400	274300
2	250100	205100	187400	234500	163200	209800	177200	360300	379200	330300	307500	275500
3	249300	202600	185500	227300	170400	201400	176300	352400	370700	332600	306600	275500
4	248500	199900	184600	219700	179000	192900	177000	345300	364100	335900	303500	275200
5	247100	196200	183700	212100	191000	187200	180900	342600	360300	340600	303200	280600
6	245700	193300	182700	203100	205600	184100	186900	336600	360300	348000	302200	280600
7	243800	189300	183200	195500	215100	180600	196200	333000	364100	355100	300700	280900
8	242900	185800	183400	194600	226800	179000	206300	329000	365800	364800	298800	280600
9	242700	182700	184600	194600	249600	177200	223600	325800	365100	373200	298500	282400
10	242100	180000	195300	192600	288400	174200	253800	321900	366200	382400	297300	283900
11	241800	183200	213100	190700	325100	172700	284800	317100	372100	389200	295400	285400
12	241000	181800	220800	188100	349400	171300	316400	312600	377800	391000	294800	285700
13	240700	180400	221300	186500	365500	169800	342900	310700	383500	387400	293900	285400
14	240200	180200	222100	184100	376400	168700	362700	310700	388100	382000	293000	284800
15	239600	181600	229700	182000	380600	170400	372800	310400	390300	377400	292300	284200
16	238600	181100	258100	180200	381300	171300	376400	311000	392800	370700	292300	284500
17	238300	181800	299700	179000	378100	173100	375300	319900	389200	365800	290800	283900
18	241300	180600	331300	177900	371400	177700	373500	325800	383800	360600	289900	283300
19	242100	180400	356200	176700	360600	179700	376400	332000	385200	355100	289000	282100
20	241800	176100	369300	176100	347700	183700	374600	337600	384900	349400	288100	283000
21	241300	177000	375600	175200	331000	186000	372100	342900	383800	345000	286300	282700
22	240500	176700	377800	173600	315100	187400	371800	349400	383500	338600	286300	282100
23	239100	177000	373500	171800	297900	187200	367200	355500	381000	334300	285700	280600
24	236900	177900	366200	170400	280600	186700	362700	362000	376700	330000	284800	278500
25	231800	180200	355100	169300	263800	186200	358900	369000	366200	326700	284200	276700
26	228100	182300	340300	168000	247600	184600	357500	377400	351700	323500	283300	274300
27	222100	186700	325400	166400	237700	184100	364100	388100	349700	320300	281500	272300
28	217900	188100	309400	165100	227600	183200	366200	394200	338900	317700	278500	270500
29	215400	188800	293000	164300	---	182300	369300	396400	334300	316100	278500	269000
30	215900	190200	276100	163800	---	180900	369700	394600	330300	314200	276700	268200
31	211800	---	259200	163600	---	180000	---	392400	---	311600	275200	---
MAX	250700	207800	377800	242900	381300	218200	376400	396400	392800	391000	309400	285700
MIN	211800	176100	182700	163600	163200	168700	176300	310400	330300	311600	275200	268200
(†)	222.92	222.04	224.68	220.87	223.53	221.60	228.16	228.80	227.00	226.42	225.23	224.99
(Φ)	-40300	-21600	+69000	-95600	+64000	-47600	+189700	+22700	-62100	-18700	-36400	-7000

CAL YR 1985 MAX 568400 MIN 176100 (Φ) -180800
WTR YR 1986 MAX 396400 MIN 163200 (Φ) +16100

(†) Elevation, in feet, at end of month.
(Φ) Change in contents, in acre-feet.

07344210 SULPHUR RIVER NEAR TEXARKANA, TX

LOCATION.--Lat 33°18'20", long 94°09'03", Bowie County, Hydrologic Unit 11140302, on downstream side of highway embankment near left end of downstream (northbound) bridge on U.S. Highway 59, 0.4 mi downstream from Texarkana Dam, 1.4 mi upstream from Elliott Creek, 11.7 mi southwest of Texarkana, and at mile 44.1.

DRAINAGE AREA.--3,443 mi².

PERIOD OF RECORD.--October 1985 to September 1986 (midnight elevations). August 1937 to July 1953 and October 1953 to September 1979 (daily gage heights); January to December 1933, January 1937 to December 1942, and January 1945 to September 9179 (discharge measurements); January to December 1939 and January 1945 to September 1979 (daily discharges) published by U.S. Army Corps of Engineers. October 1979 to September 1985 (daily discharges).

GAGE.--Water-stage recorder. Datum of gage is 180.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Elevation records fair except for Feb. 4-17 and Apr. 8-June 1, when no record was computed.

EXTTEMES FOR PERIOD OF RECORD.--Maximum discharge, 11,100 ft³/s June 16 to July 5, 1981; maximum gage height, 32.57 ft June 15, 1981 at 1000 hours; no flow June 25, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 94,000 ft³/s Apr. 4, 1945; maximum stage, 47.23 ft Apr. 14, 1945; no flow on various occasions.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 211.52 ft at 1400 hours Dec. 23; minimum elevation, 188.88 ft Oct. 20.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	189.96	200.54	205.75	211.02	189.26	208.19			---	203.76	191.33	189.09
2	189.95	200.49	207.29	209.87	189.19	207.88			---	202.20	190.97	189.09
3	189.94	200.41	207.90	208.69	190.27	207.63			---	199.70	190.90	189.08
4	189.94	200.34	208.17	208.10	---	207.90			---	197.59	190.86	189.07
5	189.93	200.27	208.30	207.69	---	205.81			---	195.60	189.66	189.14
6	189.94	198.55	208.38	207.73	---	202.94			---	194.19	189.39	189.08
7	189.93	198.37	208.47	206.39	---	200.51			---	193.99	189.33	189.25
8	189.35	198.14	208.50	203.98	---	198.58			---	193.19	189.40	189.17
9	189.17	198.05	208.57	201.69	---	197.07			208.98	194.71	189.41	189.11
10	189.00	197.99	209.16	199.94	---	196.10			209.11	197.92	189.38	189.06
11	189.01	198.18	209.87	198.47	---	195.75			209.34	199.90	189.39	189.05
12	188.96	198.31	209.56	197.39	---	195.60			209.39	200.61	189.38	189.01
13	188.95	198.45	210.05	196.72	---	195.54			209.41	200.84	189.35	188.99
14	188.95	198.39	210.75	196.36	---	193.97			209.40	200.86	189.34	188.99
15	188.93	198.26	210.80	196.21	---	192.82			209.43	200.84	189.35	188.98
16	188.91	198.13	210.91	196.16	---	192.68			210.42	200.79	189.40	189.00
17	188.91	198.11	211.07	193.77	---	192.61			210.64	200.74	189.33	188.99
18	188.98	200.64	211.19	193.11	211.22	192.61			209.87	200.68	189.33	189.33
19	188.90	201.49	211.30	193.38	211.19	192.57			209.64	200.64	188.86	189.34
20	188.88	203.86	211.33	193.44	211.12	192.53			209.56	200.60	189.11	189.35
21	189.94	204.78	211.36	193.49	211.07	192.45			209.52	200.64	189.21	189.32
22	192.30	205.09	211.41	193.55	211.01	192.41			209.49	200.60	189.17	190.88
23	195.39	205.26	211.41	195.25	210.97	192.39			209.51	199.19	189.15	192.94
24	197.83	205.36	211.35	193.67	210.90	192.37			209.48	198.71	189.12	193.27
25	199.73	205.46	211.32	193.23	210.84	192.36			209.46	196.82	189.12	193.32
26	200.30	205.53	211.33	193.10	210.79	192.34			209.78	196.22	189.13	193.32
27	200.49	205.58	211.29	193.04	209.99	192.33			209.75	196.06	189.12	193.29
28	200.57	205.63	211.25	193.06	208.72	192.32			208.72	193.65	189.09	193.29
29	200.57	205.67	211.20	191.33	---	192.32			207.26	192.96	189.09	192.74
30	200.63	205.77	211.20	190.38	---	192.31			205.50	192.79	189.07	190.73
31	200.60	---	211.09	189.99	---	192.31			---	192.72	189.08	---
MAX	200.63	205.77	211.41	211.02	---	208.19			---	203.76	191.33	193.32
MIN	188.88	197.99	205.75	189.99	---	192.31			---	192.72	188.86	188.98

07344482 BIG CYPRESS CREEK NEAR WINNSBORO, TX

LOCATION.--Lat 33°01'24", long 95°16'12", Franklin County, Hydrologic Unit 11140305, on left bank at downstream side of bridge on State Highway 37, 0.3 mi downstream from Glade Branch, 1.8 mi upstream from Little Cypress Creek, 4.7 mi north of Winnsboro, and 146.5 mi upstream from mouth.

DRAINAGE AREA.--27.2 mi².

PERIOD OF RECORD.--March 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 375.83 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: June 5-9. Records fair except those for estimated daily discharges, which are poor. Flow affected slightly by Lake Franklin located 1.4 mi upstream on Glade Branch. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--12 years (water years 1975-86), 19.8 ft³/s (9.89 in/yr), 14,350 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,320 ft³/s Nov. 24, 1974 (gage height, 12.39 ft); no flow at times in water years 1974, 1978-80, 1982, and 1984-86.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 11	0830	*4,000	*12.69	Feb. 3	1815	1,680	11.66

Minimum daily discharge, no flow Aug. 21-25, 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.81	2.4	18	5.3	7.2	5.7	5.6	23	9.0	1.8	.19	.04
2	.66	1.7	11	5.2	6.4	6.7	6.0	35	28	2.4	.14	.17
3	.66	2.0	6.7	4.8	513	7.1	6.1	12	24	3.9	.05	.33
4	.63	2.2	5.9	5.0	460	7.2	7.5	6.7	10	2.3	.08	.42
5	.52	2.6	5.5	4.6	92	7.5	433	5.7	7.8	1.7	.18	.86
6	.55	3.5	5.0	4.8	258	5.9	150	5.7	5.4	1.0	.33	1.1
7	.63	3.3	5.0	4.6	48	6.4	29	6.1	10	.86	.32	.80
8	.63	3.6	4.5	4.3	29	6.0	15	6.5	40	1.0	.21	.48
9	.60	4.9	5.0	4.3	59	7.4	8.0	8.8	13	1.2	.27	.43
10	.71	4.9	6.1	4.6	49	5.9	4.9	13	8.7	1.3	.32	.52
11	.92	9.7	1180	4.8	29	5.9	4.7	18	192	1.3	.28	.64
12	1.2	7.8	146	4.7	19	17	8.5	9.2	31	1.2	.22	.53
13	1.3	4.6	71	4.7	16	8.5	7.2	5.3	9.5	.66	.20	.50
14	1.9	4.9	26	5.0	16	6.3	5.3	3.6	5.1	.59	.16	.49
15	2.4	10	17	4.9	13	6.5	2.3	3.7	3.6	.57	.29	.53
16	1.9	5.8	11	5.4	14	6.1	2.0	2.7	12	.59	.33	.57
17	1.9	28	8.8	6.9	12	5.8	4.0	95	59	.61	.28	.62
18	26	14	7.4	6.3	11	6.9	5.7	118	11	.54	.15	.64
19	35	6.7	6.6	5.7	9.0	5.6	16	25	5.1	.37	.05	.69
20	2.6	7.2	5.9	5.4	8.4	4.9	40	11	4.1	.35	.02	.66
21	.60	3.8	5.5	5.7	8.8	5.2	12	7.0	4.4	.39	.00	.66
22	.66	3.5	5.8	3.7	6.5	6.1	6.3	4.7	5.3	.63	.00	.77
23	1.2	4.6	5.6	3.9	7.0	6.2	4.2	3.8	4.1	.66	.00	.85
24	2.2	6.5	5.1	4.9	5.8	6.1	3.2	3.4	2.6	.75	.00	.86
25	3.0	9.6	4.1	5.2	6.2	6.2	3.0	4.6	3.0	.63	.00	.84
26	3.8	10	4.8	5.3	6.5	5.5	4.5	5.8	1.9	.59	.01	.80
27	3.8	184	4.6	4.9	6.0	5.4	12	5.2	2.1	.50	.10	.70
28	6.7	45	5.2	6.5	4.7	6.4	19	6.0	1.7	.42	.13	.65
29	7.6	13	5.2	5.7	---	6.4	9.7	6.0	1.6	.43	.14	.75
30	10	8.3	6.0	5.8	---	5.9	9.9	5.4	1.9	.25	.09	.80
31	6.0	---	5.7	6.8	---	5.8	---	6.0	---	.15	.00	---
TOTAL	127.08	418.1	1610.0	159.7	1720.5	204.5	844.6	471.9	516.9	29.64	4.54	18.70
MEAN	4.10	13.9	51.9	5.15	61.4	6.60	28.2	15.2	17.2	.96	.15	.62
MAX	35	184	1180	6.9	513	17	433	118	192	3.9	.33	1.1
MIN	.52	1.7	4.1	3.7	4.7	4.9	2.0	2.7	1.6	.15	.00	.04
CFSM	.15	.51	1.91	.19	2.26	.24	1.04	.56	.63	.04	.01	.02
IN.	.17	.57	2.20	.22	2.35	.28	1.16	.65	.71	.04	.01	.03
AC-FT	252	829	3190	317	3410	406	1680	936	1030	59	9.0	37

CAL YR 1985 TOTAL 8910.99 MEAN 24.4 MAX 1180 MIN .00 CFSM .90 IN. 12.19 AC-FT 17670
WTR YR 1986 TOTAL 6126.16 MEAN 16.8 MAX 1180 MIN .00 CFSM .62 IN. 8.38 AC-FT 12150

07344484 LAKE CYPRESS SPRINGS NEAR MOUNT VERNON, TX

LOCATION.--Lat 33°03'22", long 95°08'22", Franklin County, Hydrologic Unit 11140305, in brick meter house located on upstream side and near center of dam on Big Cypress Creek, 1.5 mi upstream from Andy's Creek, 2.6 mi downstream from Panther Creek, and 10.3 mi southeast of Mount Vernon.

DRAINAGE AREA.--75.0 mi².

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a rolled earthfill dam 5,230 ft long. Deliberate impoundment began July 7, 1970, and the dam was completed Feb. 15, 1971. The spillway is an excavated channel through natural ground 1,000 ft wide located to the left of left end of dam. The service spillway is a rectangular 23- by 23-foot drop inlet located near the right end of dam. The low-flow outlet works consist of an 18-inch-diameter concrete pipe that has duplicate valve controls and discharges into the service spillway conduit. Figures given herin represent total contents. Data regarding the dam and lake are given in the following table.

	Elevation (feet)	Capacity (acre-feet)
Top of dam.......................................	397.0	-
Crest of spillway...............................	385.0	100,400
Crest of spillway...............................	378.0	72,850
Lowest gated outlet (invert)....................	317.75	0

COOPERATION.--The capacity table, provided by the Franklin County Water District, was based on data prepared by Wisenbaker, Fix, and Associates, Consulting Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 83,770 acre-ft Feb. 2, 1975 (elevation, 381.00 ft); minimum, 59,440 acre-ft Nov. 12-14, 1978 (elevation, 373.79 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 72,990 acre-ft Dec. 11 at 1900 hours (elevation, 380.04 ft); minimum, 68,470 acre-ft Oct. 10-14 (elevation, 376.69 ft).

Capacity table (elevation, in feet, and contents, in acre-feet)

376.0	66,240	379.0	76,340
377.0	69,490	380.0	79,980
378.0	72,850	381.0	83,770

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68930	70620	73330	73640	73050	73430	72750	74020	73540	73260	71390	69520
2	68900	70620	73260	73570	73090	73430	72750	74060	74120	73610	71260	69490
3	68860	70590	73190	73540	78470	73400	72810	74060	74160	73540	71390	69460
4	68830	70550	73190	73540	79650	73330	72810	73950	74400	73500	71320	69520
5	68770	70550	73190	73430	79500	73330	75630	73850	74330	73430	71260	69720
6	68670	70490	73120	73400	79420	73300	75630	73810	74230	73330	71190	69820
7	68570	70490	73050	73360	78470	73260	75630	73710	74260	73300	71120	69820
8	68570	70390	73050	73330	77780	73190	75280	73640	74300	73260	71050	69850
9	68570	70390	73050	73330	77380	73160	75100	73640	74260	73190	70990	69850
10	68470	70490	74680	73190	76730	73160	74820	73880	74960	73120	70890	69820
11	68470	70990	80130	73190	75950	73260	74580	73880	75000	73050	70850	69790
12	68470	71050	79270	73190	75520	73330	74470	73880	74860	72950	70820	69720
13	68470	71120	78650	73190	75140	73260	74300	73740	74790	72880	70720	69690
14	68570	71360	77630	73120	74750	73260	74190	73640	74580	72850	70690	69650
15	68570	71460	77020	73120	74470	73300	74060	73540	74440	72780	70590	69650
16	68570	71490	76480	73120	74230	73300	73950	73470	74650	72680	70550	69560
17	68570	71860	75910	73090	74090	73260	73880	74650	74650	72580	70490	69560
18	69520	72000	75630	73090	74060	73230	73880	75000	74510	72580	70420	69560
19	69920	72100	75280	73090	74060	73230	74300	74860	74370	72510	70390	69490
20	69950	72030	74960	73090	74090	73120	74300	74610	74260	72440	70290	69420
21	69950	72000	74750	73190	74090	73090	74230	74400	74190	72340	70220	69420
22	69950	72000	74650	73160	73990	73050	74120	74230	74090	72240	70150	69420
23	69950	72030	74440	73120	73920	73020	73990	74330	73950	72240	70090	69420
24	69950	72130	74260	73120	73850	72990	73920	74090	73810	71900	70090	69360
25	69950	72270	74160	73120	73780	72990	73810	74060	73710	71830	70050	69290
26	69920	72370	74020	73120	73740	72990	73710	73950	73670	71760	70020	69290
27	69920	73230	73990	73090	73640	72950	74090	73880	73540	71690	69920	69260
28	70190	73300	73850	73050	73500	72950	74090	73740	73430	71660	69920	69190
29	70190	73300	73780	73050	---	72950	73990	73670	73360	71630	69820	69190
30	70550	73400	73740	73050	---	72920	73920	73540	73330	71560	69690	69190
31	70620	---	73670	73050	---	72920	---	73540	---	71490	69590	---
MAX	70620	73400	80130	73640	79650	73430	75630	75000	75000	73610	71390	69850
MIN	68470	70390	73050	73050	73050	72920	72750	73470	73330	71490	69590	69190
(†)	377.34	378.16	378.24	378.06	378.19	378.02	378.31	378.20	378.14	377.60	377.03	376.91
(‡)	+1630	+2780	+270	-620	+450	-580	+1000	-380	-210	-1840	-1900	-400

CAL YR 1985 MAX 81100 MIN 68470 (‡) -630
WTR YR 1986 MAX 80130 MIN 68470 (‡) +200

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

07344486 BRUSHY CREEK AT SCROGGINS, TX

LOCATION.--Lat 32°58'32", long 95°11'03", Franklin County, Hydrologic Unit 11140305, at downstream side of highway embankment near left end of bridge on Farm Road 115, 0.1 mi north of Scroggins, 0.3 mi downstream from Briary Creek, 2.5 mi upstream from South Brushy Creek, and 9.5 mi upstream from mouth.

DRAINAGE AREA.--23.4 mi².

PERIOD OF RECORD.--December 1977 to current year.

GAGE.--Water-stage recorder. Datum of gage is 343.90 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: June 18 to July 29. Records good except those for estimated daily discharges, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years (water years 1979-86), 15.4 ft³/s (8.94 in/yr), 11,160 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,140 ft³/s Sept. 20, 1979 (gage height, 13.46 ft); no flow in water years 1978, 80, 84-86.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Feb. 3	1745	*1,120	*12.99	No other peak greater than base discharge.			

Minimum discharge,, no flow Aug. 16-24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.67	8.0	58	6.6	13	7.5	6.7	8.6	31	2.5	.05	.41
2	.46	5.0	17	6.2	13	8.0	7.1	19	37	3.8	.03	.52
3	.48	4.0	12	6.3	351	8.0	7.1	9.2	66	5.0	.04	.82
4	.50	3.5	9.9	6.5	274	7.8	9.4	5.8	21	3.0	.09	.94
5	.47	3.1	8.8	6.9	60	8.0	89	5.3	14	2.5	.14	1.3
6	.46	2.9	7.6	7.7	78	7.5	30	7.1	8.0	2.0	.08	2.5
7	.51	3.0	7.1	7.6	29	7.8	5.3	7.4	10	1.6	.06	1.4
8	.53	2.9	6.8	6.2	17	7.9	3.5	6.8	15	2.0	.04	.67
9	.53	2.7	7.4	6.1	17	10	2.8	7.8	9.4	2.2	.04	.56
10	.52	2.7	22	6.7	19	8.1	2.2	19	7.3	2.3	.02	.62
11	.56	8.2	420	7.3	14	7.4	2.4	28	57	2.3	.01	.58
12	.60	16	116	7.9	11	12	4.0	9.2	29	1.8	.02	.62
13	.62	7.3	42	8.5	10	10	3.7	4.9	9.1	1.4	.02	.54
14	.66	5.2	23	9.1	11	9.0	3.3	5.4	5.1	1.2	.01	.43
15	1.5	14	18	9.1	12	8.4	2.8	6.2	4.8	1.0	.01	.41
16	1.1	9.5	15	9.5	12	8.8	4.2	6.9	7.3	.80	.00	.38
17	1.1	12	14	13	12	8.9	5.7	45	139	1.0	.00	.46
18	5.2	15	12	13	11	11	8.5	128	31	.80	.00	.47
19	40	8.4	11	11	9.9	11	15	22	15	.60	.00	.35
20	14	8.4	10	11	9.5	8.1	46	11	6.4	.60	.00	.35
21	5.8	6.1	9.6	11	8.6	7.5	10	7.6	9.0	.70	.00	.39
22	4.1	5.1	9.7	11	8.1	7.2	5.8	7.3	6.0	.80	.00	.46
23	3.2	5.2	9.5	9.9	8.1	7.3	6.1	7.1	5.0	.80	.00	.50
24	2.6	7.8	9.0	10	8.2	7.1	7.9	10	4.0	.90	.00	.48
25	2.4	15	7.6	12	8.1	7.0	8.3	14	4.5	.70	.04	.32
26	2.3	12	7.1	11	8.5	6.9	8.3	14	3.2	.50	.06	.28
27	2.3	52	7.6	11	8.4	6.9	15	14	3.5	.30	.04	.23
28	4.7	27	7.7	11	7.6	6.9	41	16	3.0	.20	.04	.22
29	16	13	7.2	11	---	7.0	11	17	2.5	.15	.27	.24
30	18	12	7.2	12	---	6.9	7.8	17	2.8	.10	.37	.22
31	19	---	7.8	12	---	6.9	---	19	---	.07	.40	---
TOTAL	150.87	297.0	927.6	288.1	1049.0	252.8	379.9	505.6	565.9	43.62	1.88	17.67
MEAN	4.87	9.90	29.9	9.29	37.5	8.15	12.7	16.3	18.9	1.41	.06	.59
MAX	40	52	420	13	351	12	89	128	139	5.0	.40	2.5
MIN	.46	2.7	6.8	6.1	7.6	6.9	2.2	4.9	2.5	.07	.00	.22
CFSM	.21	.42	1.28	.40	1.60	.35	.54	.70	.81	.06	.00	.03
IN.	.24	.47	1.47	.46	1.67	.40	.60	.80	.90	.07	.00	.03
AC-FT	299	589	1840	571	2080	501	754	1000	1120	87	3.7	35

CAL YR 1985 TOTAL 6076.11 MEAN 16.6 MAX 424 MIN .00 CFSM .71 IN. 9.66 AC-FT 12
WTR YR 1986 TOTAL 4479.94 MEAN 12.3 MAX 420 MIN .00 CFSM .53 IN. 7.12 AC-FT 8

07344489 LAKE BOB SANDLIN NEAR MOUNT PLEASANT, TX

LOCATION.--Lat 33°04'48", long 95°00'07", Titus County, Hydrologic Unit 11140305, in control room in left abutment of service spillway at left end of Fort Sherman Dam on Big Cypress Creek, 1.7 mi upstream from Tankersley Creek, 3.5 mi upstream from bridge on U.S. Highway 271, 5.7 mi southwest of the county courthouse in Mount Pleasant, and 129.2 mi upstream from mouth.

DRAINAGE AREA.--239 mi².

PERIOD OF RECORD.--August 1977 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. A nonrecording gage was located at same site and datum prior to Apr. 12, 1978.

REMARKS.--The lake is formed by a rolled earthfill dam 10,800 ft long, including spillways. Deliberate impoundment began Aug. 8, 1977, and the dam was completed by April 1978. The spillway is an excavated channel cut through natural ground. The spillway is 4,500 ft wide, located to the left of the left end of the dam. The service spillway is 289.5 ft wide with 160 ft of net flow width controlled by four 40- by 22.5-foot tainter gates. The dam was built, owned, maintained, and operated by the Titus County Fresh Water Supply District No. 1 to provide water for municipal use. Flow from 75.0 mi² above this station is controlled by Lake Cypress Springs on Big Cypress Creek and from 36.0 mi² above this station is controlled by Montecello Reservoir on Blundell Creek, a tributary to Big Cypress Creek. Stage telemeter at station. Figures given herin represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-ft)
Top of dam...	349.0	-
Crest of uncontrolled spillway........................	341.3	251,000
Crest of gated spillway...............................	316.5	64,790
Lowest gated outlet (invert)..........................	294.5	3,300

COOPERATION.-Area and capacity tables were compiled by Forest and Cotton, Inc., Consulting Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 217,600 acre-ft Feb. 24, 1985 (elevation, 337.95 ft); minimum, 516 acre-ft Aug. 8-17, 1977 (elevation, 290.00 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 215,900 acre-ft Feb. 3 at 1500 hours (elevation, 337.77 ft); minimum, 189,200 acre-ft Oct. 12-13 (elevation, 334.87 ft).

Capacity table (elevation, in feet, and contents, in acre-feet)

334.0	186,000	337.0	208,600
335.0	190,400	338.0	218,100

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	190700	195500	200200	210800	211700	211700	210700	212400	213400	212000	205100	195400
2	190600	195300	200100	210900	211700	211700	210400	212500	214500	213400	204800	195300
3	190500	195100	200100	211000	215800	211800	210700	212400	212500	213400	204600	195200
4	190200	195100	200200	210800	212300	211800	210700	212100	213900	213400	204300	195800
5	190000	195100	200200	210900	212500	211700	213400	212100	212000	213200	203900	196500
6	189800	194800	200000	210900	211700	211800	213400	212100	212500	213100	203500	196700
7	189700	194800	200100	210700	211300	211700	213100	212200	213000	213000	203100	196700
8	189500	194700	200200	210900	210500	211900	213700	212600	213100	212900	202700	196500
9	189400	194700	200300	210800	210700	212100	212400	212500	213800	212200	202400	196300
10	189400	195200	204600	210900	211600	212000	212300	213400	213400	212400	202200	196200
11	189300	195900	214100	210900	211700	212100	212100	213400	213600	212100	202000	196200
12	189200	196000	211300	210900	211900	211900	212100	213100	213300	211700	201500	196000
13	189200	196100	210300	210900	212100	211800	212100	213100	212900	211500	201200	195800
14	189300	196500	210000	211000	211700	212000	212000	212400	212800	211100	200300	195700
15	189300	196300	210900	211000	211400	212000	211700	212500	212900	210800	200400	195600
16	189200	196500	211300	211300	211600	212000	211700	212300	213100	210400	200100	195500
17	189500	196900	211700	211400	211600	212000	211900	213600	213400	210000	200000	195500
18	192800	197000	211700	211600	211600	212200	211900	212300	213800	209800	199700	195300
19	194600	197100	211900	211600	211600	211800	213200	212300	213900	209500	199400	195300
20	194700	197000	211700	211700	211400	211800	212100	212600	213800	209100	199000	195300
21	194600	196900	211700	211700	211300	211700	211800	212600	213600	208800	198700	195300
22	194600	196900	211800	211700	211300	211700	211700	212800	213400	208600	198300	195300
23	194600	197100	211700	211700	211300	211700	211700	212900	213400	208300	198000	195200
24	194600	197100	211400	211700	211500	211700	211700	213500	213500	207900	198000	195100
25	194500	197500	210900	211700	211700	211600	211700	213400	213400	207500	197800	194700
26	194500	197900	210800	211700	211700	211700	211700	213200	213400	207200	197400	194600
27	194500	198900	210700	211600	211700	211700	213200	213100	213000	206900	197200	194500
28	195300	198900	210600	211600	211700	211600	212600	213000	212700	206600	196900	194500
29	195500	198900	210400	211600	---	211500	212100	212600	212600	206200	196300	194400
30	195500	199900	210700	211500	---	211300	212000	212600	212200	205900	196000	194300
31	195600	---	210700	211600	---	211000	---	213000	---	205500	195600	---
MAX	195600	199900	214100	211700	215800	212200	213700	213600	214500	213400	205100	196700
MIN	189200	194700	200000	210700	210500	211000	210400	212100	212000	205500	195600	194300
(†)	335.58	336.05	337.22	337.31	337.32	337.25	337.36	337.46	337.38	336.66	335.58	335.43
(◆)	+4600	+4300	+10800	+900	+100	-700	+1000	+1000	-800	-6700	-9900	-1300

CAL YR 1985 MAX 217300 MIN 189200 (◆) +3100
WTR YR 1986 MAX 215800 MIN 189200 (◆) +3300

(†) Elevation, in feet, at end of month.
(◆) Change in contents, in acre-feet.

07344500 BIG CYPRESS CREEK NEAR PITTSBURG, TX

LOCATION.--Lat 33°01'15", long 94°52'55", Camp-Titus County line, Hydrologic Unit 11140305, near center of stream at downstream side of bridge on State Highway 11, 0.5 mi upstream from Louisiana & Arkansas Railway Co. bridge, 1.4 mi upstream from Williamson Creek, 5.2 mi east of Pittsburg, 19.2 mi downstream from Lake Bob Sandlin, and 110.0 mi upstream from mouth.

DRAINAGE AREA.--366 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1943 to January 1963 (published as Cypress Creek near Pittsburg), October 1967 to current year. Gage-height records collected at this site September 1963 to December 1967 are published in reports by the U.S. Army Corps of Engineers.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 247.49 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 12, 1954, water-stage recorder at site 1,900 ft downstream at present datum.

REMARKS.--No estimated daily discharges. Records good. Flow partly regulated by Lake Cypress Springs (station 07344484) since July 1970, and by Monticello Reservoir (on Blundell Creek) since August 1972. Flow largely regulated by Lake Bob Sandlin (station 07344489) since August 1977. Sewage effluent was returned to a tributary above the station by the city of Mount Pleasant, and sewage effluent was returned to a tributary below the gage by the city of Pittsburg.

AVERAGE DISCHARGE.--24 years (water years 1944-62, 1968-72), prior to combined regulation by Lake Cypress Springs and Monticello Reservoir, 327 ft³/s (12.13 in/yr), 236,900 acre-ft/yr; 14 years (water years 1973-86) regulated, 243 ft³/s (176,100 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58,500 ft³/s Mar. 30, 1945 (gage height, 28.3 ft, from floodmark, and adjusted to present site on basis of record for flood of Apr. 27, 1958), from rating curve extended above 20,000 ft³/s; no flow Aug. 20 to Oct 3, 1954, July 19 to Nov. 4, 1956.
Maximum stage since at least 1895, that of Mar. 30, 1945.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1938 reached a stage of about 25 ft, present site, adjusted as explained above, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,400 ft³/s Feb. 4 at 1300 hours (gage height, 18.74 ft); minimum, 1.3 ft³/s Aug. 22 and Sept. 3-4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	43	81	28	13	22	11	507	369	14	2.4	2.0
2	5.0	22	245	28	14	19	11	486	449	13	2.2	1.7
3	3.8	15	89	25	162	17	11	421	1260	135	2.0	1.5
4	2.9	8.0	36	27	9890	16	15	243	3230	309	5.6	1.7
5	2.5	5.6	28	27	6250	16	127	111	3660	38	4.9	6.6
6	3.1	4.0	26	23	2200	16	559	25	2640	14	3.2	12
7	9.0	5.8	25	22	1860	15	1120	22	1220	11	2.3	16
8	6.1	7.5	23	25	1610	15	950	21	418	9.6	2.3	8.4
9	3.9	8.2	23	26	1950	14	747	21	144	9.0	4.0	5.7
10	2.4	6.9	21	26	1390	14	918	25	243	14	3.2	4.6
11	2.2	22	1550	25	830	14	797	163	575	15	2.3	5.2
12	1.8	203	6700	24	481	85	286	227	954	8.6	1.9	6.0
13	2.6	266	3590	22	330	260	170	165	1230	7.5	1.8	4.8
14	3.2	69	1960	20	282	82	150	144	855	8.2	1.8	4.0
15	2.3	28	1190	21	369	22	143	134	374	7.6	1.8	3.4
16	1.9	19	743	21	571	34	82	52	243	8.9	2.1	3.5
17	2.5	18	396	19	388	23	18	126	40	10	2.1	3.5
18	4.1	67	291	20	224	74	16	1130	27	8.2	2.1	3.1
19	38	97	247	23	204	160	191	2620	22	5.5	1.8	3.2
20	152	46	218	21	189	131	878	1450	19	4.7	1.8	3.7
21	65	44	205	19	183	27	1240	511	78	4.0	1.5	3.0
22	22	28	202	16	174	17	1060	55	126	3.8	1.3	3.5
23	12	21	200	16	81	15	321	29	96	3.6	2.2	3.9
24	7.4	15	195	15	32	14	34	29	18	3.4	3.4	3.6
25	6.4	17	189	14	26	13	23	75	11	3.2	6.6	3.8
26	6.0	27	187	15	31	13	16	148	13	3.2	6.2	3.7
27	6.5	101	180	14	30	13	61	118	12	3.1	3.9	3.2
28	6.0	234	176	13	26	13	635	112	10	3.0	3.2	3.2
29	12	208	183	13	---	13	950	106	19	2.9	2.8	3.2
30	43	56	101	12	---	12	960	89	37	2.5	2.6	7.1
31	43	---	30	12	---	12	---	86	---	2.4	2.3	---
TOTAL	485.8	1712.0	19330	632	29790	1211	12500	9451	18392	685.9	87.6	138.8
MEAN	15.7	57.1	624	20.4	1064	39.1	417	305	613	22.1	2.83	4.63
MAX	152	266	6700	28	9890	260	1240	2620	3660	309	6.6	16
MIN	1.8	4.0	21	12	13	12	11	21	10	2.4	1.3	1.5
AC-FT	964	3400	38340	1250	59090	2400	24790	18750	36480	1360	174	275

CAL YR 1985 TOTAL 102829.2 MEAN 282 MAX 11300 MIN 1.6 AC-FT 204000
WTR YR 1986 TOTAL 94416.1 MEAN 259 MAX 9890 MIN 1.3 AC-FT 187300

07344500 BIG CYPRESS CREEK NEAR PITTSBURG, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: March 1965 to current year. Chemical and biochemical analyses: January 1983 to September 1985.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1968 to current year.
WATER TEMPERATURES: October 1968 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 941 microsiemens Sept. 1, 1971; minimum daily, 69 microsiemens July 30, 1969, Sept. 22, 1979.
WATER TEMPERATURES: Maximum daily, 32.0°C Aug. 20, 1969; minimum daily, 0.0°C on several days during winter months of 1982-84.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 884 microsiemens Aug. 8; minimum daily, 77 microsiemens Dec. 12.
WATER TEMPERATURES: Maximum daily, 31.0°C July 28, Aug. 2, 17; minimum daily, 4.0°C Dec. 14, Jan. 9, 10, 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT								
10...	1500	2.4	674	66	0	16	6.4	79
NOV								
21...	1500	44	268	64	21	16	5.9	22
JAN								
09...	1600	26	339	66	18	15	7.0	32
FEB								
21...	1200	183	238	60	32	13	6.7	21
APR								
10...	1700	918	171	50	36	11	5.4	16
JUN								
06...	1130	2640	166	44	33	10	4.6	13
JUL								
24...	1200	3.4	354	72	15	17	7.2	39

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT								
10...	4	25	80	68	92	0.2	7.1	340
NOV								
21...	1	7.6	43	38	30	0.2	11	160
JAN								
09...	2	7.0	48	48	41	0.1	11	190
FEB								
21...	1	5.3	28	28	33	0.2	3.6	130
APR								
10...	1	5.4	14	29	25	0.2	2.7	100
JUN								
06...	0.9	5.7	11	27	23	0.2	5.4	95
JUL								
24...	2	8.6	57	36	45	0.3	8.4	200

07344500 BIG CYPRESS CREEK NEAR PITTSBURG, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	485.8	288	160	209	36	47	40	53	64
NOV. 1985	1712.0	225	127	587	26	121	34	157	56
DEC. 1985	19330	147	84	4380	16	834	24	1230	40
JAN. 1986	632	354	195	333	45	77	49	83	76
FEB. 1986	29790	169	97	7780	19	1490	27	2170	45
MAR. 1986	1211	303	168	550	37	122	43	141	69
APR. 1986	12500	183	104	3510	20	685	29	972	48
MAY 1986	9451	187	106	2720	21	532	29	751	49
JUNE 1986	18392	179	102	5060	20	976	28	1410	48
JULY 1986	685.9	239	134	248	29	53	35	65	57
AUG. 1986	87.6	729	371	88	120	28	65	15	74
SEPT 1986	138.8	533	283	106	77	29	61	23	85
TOTAL	94416.1	**	**	25600	**	5000	**	7070	**
WTD.AVG.	259	176	100	**	20	**	28	**	46

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	454	297	231	289	426	335	478	200	150	302	584	630
2	499	285	182	340	425	338	487	190	210	320	636	600
3	512	293	208	333	350	334	483	210	155	303	675	574
4	498	299	240	317	133	342	469	231	169	147	708	563
5	511	306	261	364	163	359	290	216	173	196	783	533
6	528	303	299	335	166	366	178	232	170	245	833	456
7	556	304	310	342	188	377	150	262	178	279	864	437
8	652	307	314	323	186	393	204	321	217	302	884	448
9	656	321	306	317	175	407	213	408	256	328	867	489
10	635	365	321	367	199	434	188	356	213	348	703	499
11	593	350	107	346	214	437	221	304	205	347	591	498
12	545	145	77	328	213	400	240	239	181	292	534	504
13	480	125	169	325	223	251	234	223	155	333	548	548
14	431	180	183	336	226	268	229	221	193	347	612	600
15	405	244	192	351	227	291	222	220	202	390	675	614
16	395	271	202	350	218	330	246	223	222	417	741	605
17	388	285	213	314	227	316	285	200	245	437	757	574
18	381	255	215	339	235	287	340	167	262	381	778	549
19	345	234	221	353	242	263	300	145	319	417	800	550
20	184	229	230	370	238	256	143	172	313	364	804	575
21	185	262	229	393	237	260	130	200	327	336	808	606
22	262	289	231	395	235	284	179	257	210	342	802	603
23	274	281	233	390	231	303	203	275	212	351	778	591
24	287	274	232	409	257	319	249	320	228	359	685	563
25	305	273	228	397	307	343	274	303	253	364	666	542
26	306	270	229	389	347	370	317	246	310	382	783	535
27	314	324	223	424	361	395	300	222	353	392	723	558
28	321	275	226	421	345	419	132	236	388	407	741	583
29	312	219	232	424	---	442	166	234	342	423	726	603
30	384	238	229	426	---	461	178	228	325	472	701	670
31	314	---	258	420	---	468	---	258	---	519	696	---
MEAN	417	270	227	362	250	350	258	243	238	350	725	557

07344500 BIG CYPRESS CREEK NEAR PITTSBURG, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	15.0	11.0	7.0	11.0	11.0	19.0	21.0	24.0	26.0	30.0	24.0
2	14.0	15.0	8.0	6.0	14.0	11.0	19.0	19.0	24.0	26.0	31.0	24.0
3	14.0	13.0	6.0	6.0	15.0	13.0	20.0	19.0	23.0	25.0	30.0	25.0
4	15.0	11.0	7.0	7.0	14.0	12.0	21.0	19.0	24.0	26.0	28.0	26.0
5	15.0	12.0	7.0	8.0	13.0	12.0	21.0	20.0	26.0	26.0	29.0	25.0
6	13.0	12.0	7.0	5.0	13.0	13.0	23.0	20.0	26.0	27.0	29.0	24.0
7	13.0	12.0	8.0	6.0	10.0	13.0	22.0	22.0	26.0	27.0	29.0	24.0
8	15.0	11.0	9.0	5.0	10.0	13.0	23.0	---	26.0	26.0	29.0	24.0
9	17.0	15.0	10.0	4.0	9.0	14.0	20.0	22.0	25.0	27.0	29.0	25.0
10	18.0	17.0	12.0	4.0	10.0	16.0	19.0	23.0	25.0	27.0	29.0	25.0
11	20.0	16.0	11.0	4.0	10.0	17.0	19.0	22.0	25.0	27.0	29.0	28.0
12	20.0	18.0	8.0	5.0	10.0	17.0	19.0	22.0	24.0	27.0	28.0	25.0
13	22.0	---	7.0	5.0	9.0	16.0	21.0	22.0	25.0	29.0	27.0	24.0
14	22.0	19.0	4.0	5.0	11.0	17.0	19.0	24.0	25.0	27.0	27.0	23.0
15	21.0	19.0	6.0	7.0	11.0	17.0	18.0	25.0	26.0	27.0	---	25.0
16	20.0	16.0	5.0	7.0	14.0	17.0	15.0	23.0	24.0	27.0	29.0	25.0
17	20.0	16.0	6.0	11.0	17.0	16.0	16.0	22.0	24.0	27.0	31.0	25.0
18	21.0	17.0	7.0	12.0	14.0	16.0	15.0	20.0	25.0	27.0	29.0	26.0
19	21.0	18.0	7.0	10.0	16.0	16.0	18.0	20.0	24.0	26.0	28.0	26.0
20	20.0	15.0	7.0	9.0	17.0	15.0	17.0	21.0	25.0	27.0	28.0	26.0
21	20.0	13.0	7.0	12.0	15.0	13.0	18.0	20.0	25.0	27.0	28.0	27.0
22	20.0	13.0	8.0	11.0	14.0	12.0	17.0	23.0	27.0	28.0	27.0	26.0
23	21.0	13.0	8.0	9.0	15.0	13.0	17.0	24.0	26.0	28.0	27.0	26.0
24	21.0	15.0	9.0	9.0	14.0	15.0	18.0	24.0	26.0	28.0	27.0	26.0
25	21.0	16.0	6.0	9.0	12.0	15.0	19.0	22.0	27.0	29.0	26.0	26.0
26	20.0	18.0	5.0	9.0	14.0	16.0	20.0	22.0	28.0	30.0	27.0	26.0
27	19.0	18.0	6.0	6.0	15.0	17.0	23.0	21.0	26.0	30.0	28.0	27.0
28	18.0	13.0	7.0	5.0	12.0	18.0	19.0	21.0	27.0	31.0	26.0	27.0
29	17.0	10.0	7.0	7.0	---	18.0	20.0	23.0	26.0	30.0	24.0	27.0
30	16.0	11.0	7.0	8.0	---	19.0	21.0	23.0	26.0	30.0	22.0	28.0
31	15.0	---	9.0	9.0	---	19.0	---	24.0	---	30.0	25.0	---
MEAN	18.0	14.5	7.5	7.5	13.0	15.0	19.0	22.0	25.5	27.5	28.0	25.5

07345500 ELLISON CREEK RESERVOIR NEAR LONE STAR, TX

LOCATION.--Lat 32°55'16", long 94°43'17", Morris County, Hydrologic Unit 11140305, at pumphouse of Lone Star Steel Co., on left bank 1,700 ft upstream from Ellison Creek Dam on Ellison Creek, 0.6 mi upstream from Big Cypress Creek, and 1.4 mi southwest of Lone Star.

DRAINAGE AREA.--37.0 mi².

PERIOD OF RECORD.--January 1943 to September 1962 (published as "near Daingerfield"), January 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Sept. 22, 1943, staff gage at site just upstream from dam at datum 200 ft lower.

REMARKS.--The reservoir is formed by a rolled earthfill dam 4,000 ft long, with an uncontrolled concrete spillway 300 ft long at the left end of dam. Deliberate impoundment began Jan. 14, 1943, and the dam was completed in April 1943. Another spillway is cut through natural ground near the right end of dam. In addition, there is a relief dam approximately 125 ft long, located near the reservoir pumphouse that can be breached if the other spillways are unable to release sufficient floodwater. There is a 36-inch-diameter conduit through the dam that is used for pumping water from Big Cypress Creek into the reservoir and can also be used to discharge water from the reservoir into Big Cypress Creek. The dam is owned by Lone Star Steel Co. The company diverts water from the lake for cooling purposes and returns most of the water to the lake. Area capacity curves are based on a survey made in 1942. Figures giver herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	280.1	-
Design flood..	275.1	36,600
Crest of spillway..	273.1	33,000
Crest of concrete spillway..	268.1	24,700
Lowest gated outlet (invert)..	235.1	196

COOPERATION.--Capacity table and area-capacity curves were provided by Lone Star Steel Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 31,240 acre-ft Apr. 26, 1958 (elevation, 272.11 ft); minimum since lake first filled in May 1944, 15,760 acre-ft Dec. 24, 1975 (elevation, 261.28 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 25,630 acre-ft June 1 (elevation, 268.75 ft); minimum, 19,740 acre-ft Oct. 10-13 (elevation, 264.61 ft).

Capacity table (elevation, in feet, and contents, in acre-feet)

264.0	18,980	266.0	21,540	268.0	24,470
265.0	20,230	267.0	22,970	269.0	26,020

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19890	20880	22720	24560	24490	24860	24530	24730	25490	23980	23210	22510
2	19870	20920	22780	24550	24490	24920	24460	24780	25200	23930	23170	22610
3	19870	20960	22790	24500	25250	24920	24460	24760	25040	23830	23210	22690
4	19840	20980	22790	24530	25310	24870	24470	24700	24970	23740	23180	22750
5	19860	20980	22840	24500	25040	24760	24730	24590	24840	23630	23050	22880
6	19860	20980	22870	24490	24890	24670	24730	24560	24830	23530	23080	22930
7	19790	20980	22900	24490	24760	24590	24700	24490	24800	23420	23020	22940
8	19780	20960	22930	24340	24730	24530	24640	24470	24800	23380	22970	22930
9	19760	20960	22960	24170	24730	24460	24560	24500	24800	23360	22930	22930
10	19740	21000	23710	24260	24690	24400	24520	24550	24700	23350	22900	22880
11	19740	21370	24700	24040	24580	24320	24440	24550	24900	23330	22900	22870
12	19740	21620	25030	23980	24470	24280	24410	24500	24830	23330	22870	22840
13	19760	21670	25030	23960	24320	24220	24350	24440	24730	23350	22810	22820
14	19770	21690	24940	23980	24220	24170	24310	24350	24690	23350	22750	22820
15	19770	21760	24870	23990	24140	24260	24230	24280	24630	23380	22930	22790
16	19740	21760	24840	24040	24140	24310	24200	24190	24580	23410	22850	22880
17	19740	21860	24610	24080	24170	24320	24200	25090	24490	23420	22790	22870
18	20060	21890	24590	24130	24220	24440	24200	25180	24400	23410	22780	22840
19	20190	21960	24630	24170	24230	24460	24890	25010	24280	23410	22730	22810
20	20210	21930	24610	24220	24290	24460	25200	24890	24190	23410	22690	22840
21	20210	21920	24560	24260	24340	24490	25040	24830	24130	23390	22730	22840
22	20210	21900	24500	24260	24430	24550	24980	24750	24050	23380	22750	22820
23	20210	21900	24470	24260	24520	24610	24870	24690	23990	23380	22660	22780
24	20430	21900	24520	24310	24560	24670	24800	24720	23950	23230	22640	22730
25	20430	21960	24440	24380	24610	24720	24720	24670	23890	23380	22480	22670
26	20430	22070	24400	24410	24670	24730	24670	24630	23810	23390	22600	22630
27	20430	22110	24410	24410	24730	24780	24780	24530	24200	23390	22580	22630
28	20570	22280	22970	24410	24780	24750	24810	24440	24230	23380	22600	22570
29	20570	22440	24500	24440	---	24700	24760	24380	24190	23350	22600	22600
30	20780	22580	24530	24460	---	24640	24690	24290	24080	23300	22570	22570
31	20790	---	24560	24500	---	24580	---	25180	---	23240	22510	---
MAX	20790	22580	25030	24560	25310	24920	25200	25180	25490	23980	23210	22940
MIN	19740	20880	22720	23960	24140	24170	24200	24190	23810	23230	22480	22510
(†)	265.43	266.74	268.06	268.02	268.20	268.07	268.14	268.46	267.74	267.18	266.69	266.73
(‡)	+860	+1790	+1980	-60	+280	-200	+110	+490	-1100	-840	-730	+60

CAL YR 1985 MAX 25790 MIN 19740 (‡) +90
WTR YR 1986 MAX 25490 MIN 19740 (‡) +2640

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

07345900 LAKE O' THE PINES NEAR JEFFERSON, TX

LOCATION.--Lat 32°45'04", long 94°29'59", Marion County, Hydrologic Unit 11140305, on left bank 1,500 ft upstream from left end of Ferrell's Bridge Dam on Big Cypress Creek, on Farm Road 726, 9.0 mi west of Jefferson, and 80.1 mi upstream from mouth.

DRAINAGE AREA.--850 mi².

PERIOD OF RECORD.--August 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Nov. 12, 1957, nonrecording gage at same site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 10,600 ft long, including a 200-foot-wide concrete spillway. Impoundment of water began Aug. 21, 1957, and the dam was completed June 25, 1958. Official operation began Dec. 11, 1959. The flood-control outlet works consist of two 10.0-foot-diameter conduits that are controlled by two 8.0- by 12.5-foot electrically driven broome-type gates. The low-flow outlet works consist of a controlled 14-inch pipe. Flow over the spillway is discharged into a 2,000-foot-long rectified channel and then into Cypress Creek. The capacity table is based on a survey made in 1950. The lake was built for flood control, conservation, and water supply. During the current year, an unknown amount of water was diverted from the lake for municipal and industrial uses. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	277.0	-
Crest of spillway...	249.5	842,100
Top of conservation pool..	228.5	254,900
Crest of intake to wet well (14 in)...................................	202.5	5,760
Lowest gated outlet (invert)..	200.0	2,860

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 694,360 acre-ft May 5, 1966 (elevation, 245.41 ft); minimum since December 1959, 210,100 acre-ft Oct. 6, 1984 (elevation, 225.98 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 327,100 acre-ft Feb. 12 at 2200 hours (elevation, 232.11 ft); minimum daily, 248,000 acre-ft Oct. 14 at 0800 hours (elevation, 228.13 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

228.0	245,600	232.0	324,800
230.0	283,700	234.0	369,100

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0700

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	254800	263500	279200	290900	257100	273300	258600	280500	300600	296700	285300	269400
2	254300	263700	278200	287300	257100	270400	258200	281100	302400	297100	284300	270300
3	253700	263300	277200	282300	260900	267300	257800	281100	302800	296700	284300	271400
4	253200	263100	277800	278000	273900	266000	260100	280500	304700	296500	284300	271000
5	252600	262900	278000	272100	281900	262400	264100	280500	304000	296500	282700	272300
6	252100	262800	277600	267700	301600	260500	264700	280300	306700	297100	282100	271900
7	251500	262600	277200	264800	310200	259500	265400	279900	308800	297100	281700	271900
8	250900	262000	277000	262400	315300	258600	265800	279700	311500	297100	281300	271600
9	250400	261800	276600	260900	319300	257800	266600	281100	313200	296500	280300	271000
10	249800	262600	283100	260300	322200	258400	268500	282500	312700	296100	280300	270400
11	249300	266600	294900	259700	325000	257700	269100	282300	311900	295700	279700	270800
12	248700	267100	299300	259500	327100	257800	271800	282700	310000	294900	279000	270600
13	248200	267900	302400	259000	325600	257700	272100	283100	306900	294700	278600	270000
14	251500	268300	307600	258600	325200	257300	274500	282700	304700	294300	278000	268900
15	251300	268500	317800	258000	322900	257100	273900	282700	304000	293700	277400	268900
16	250900	269600	321800	257500	320700	256900	272700	283700	304700	293300	277000	268900
17	250800	270200	324300	257700	318400	256700	271400	290000	302600	292700	276800	268100
18	259700	270000	325400	258000	316100	258800	270600	293500	300400	292300	275800	267700
19	257800	270000	325400	258000	313800	257500	274500	294700	298700	291700	275600	267500
20	258000	270600	324100	258000	312300	257800	274500	296100	296900	291300	275100	267700
21	257800	270200	321600	258600	308400	257500	274900	298300	295100	291100	274300	267700
22	257800	269800	319500	258000	305500	257700	275100	301200	293700	290900	273500	267100
23	257800	270000	316700	257500	302400	258000	275600	302400	293700	290000	273500	266900
24	257800	271600	314600	256700	299700	258000	277400	302400	292500	289800	273700	266400
25	257800	271900	311100	259000	296500	258000	278400	302000	291100	289200	273300	266200
26	257800	272100	307800	259700	293700	258200	278000	300600	289400	288700	272900	265600
27	258800	275400	305300	258000	290900	258400	278800	300000	295500	288300	272700	265000
28	260900	274700	302400	257700	287100	258400	277200	298900	296100	287900	272100	264700
29	262200	274500	299500	257700	---	258600	276400	298100	296900	286900	271200	264300
30	266000	278800	296500	257300	---	258400	276600	297900	296500	286300	270400	263500
31	263700	---	294100	256900	---	258400	---	300200	---	285900	269600	---
MAX	266000	278800	325400	290900	327100	273300	278800	302400	313200	297100	285300	272300
MIN	248200	261800	276600	256700	257100	256700	257800	279700	289400	285900	269600	263500
(†)	228.97	229.75	230.52	228.61	230.17	228.69	229.64	230.82	230.64	230.11	229.28	228.96
(‡)	+7700	+15100	+15300	-37200	+30200	-28700	+18200	+23600	-3700	-10600	-16300	-6100

CAL YR 1985 MAX 326900 MIN 248200 (‡) +19800
WTR YR 1986 MAX 327100 MIN 248200 (‡) +7500

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

07346000 BIG CYPRESS CREEK NEAR JEFFERSON, TX

LOCATION.--Lat 32°44'58", long 94°29'55", Marion County, Hydrologic Unit 11140306, on left bank 950 ft downstream from Ferrell's Bridge Dam, 7.6 mi upstream from French Creek, 8.5 mi west of Jefferson.

DRAINAGE AREA.--850 mi^2.

PERIOD OF RECORD.--July 1924 to September 1959 (published as Cypress Creek), October 1979 to current year. Records of stage and discharge for the period October 1959 to September 1979 published by the U.S. Army Corps of Engineers, New Orleans District.

Water-quality records.--Chemical and biochemical analyses: January 1983 to September 1985.

GAGE.--Water-stage recorder. Datum of gage is 180.00 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Prior to Nov. 2, 1933, staff gage, and Nov. 2, 1933, to Dec. 8, 1955, water-stage recorder, at site about 950 ft upstream at datum 3.70 ft higher. After Dec. 9, 1955, at site about 550 ft downstream or at present site at datum 180.00 lower.

REMARKS.--Estimated daily discharges: Dec. 21-26. Records good. Flow regulated by Lake O' the Pines (station 07345900) since August 1957. Gage-height telemeter at station.

AVERAGE DISCHARGE.--33 years (water years 1925-57), prior to completion of Ferrells Bridge Dam, 660 ft^3/s (478,200 acre-ft/yr); 9 years (water years-1959, 1980-86) regulated, 594 ft^3/s (430,400 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,100 ft^3/s Apr. 1, 1945 (gage height, 28.78 ft, site and datum then in use), from rating curve extended above 29,000 ft^3/s; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,620 ft^3/s Jan. 4 at 1545 hours (gage height, 19.04 ft); minimum daily, 21 ft^3/s Mar. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	24	272	1750	115	1630	25	570	353	45	57	42
2	27	23	263	2130	115	1630	25	581	366	42	57	42
3	27	23	254	2550	115	1630	25	580	506	42	58	43
4	27	23	251	2580	115	1620	27	575	837	41	58	43
5	26	23	250	2570	250	1440	68	580	1120	40	58	43
6	26	23	249	2320	250	994	51	570	1150	40	58	43
7	26	23	249	1840	642	564	105	437	1150	38	58	43
8	26	23	249	1510	642	374	233	209	1150	36	60	43
9	26	23	249	1030	642	361	229	90	1360	35	60	43
10	26	22	251	724	642	360	220	43	1640	35	57	42
11	26	24	503	318	642	359	219	41	1660	35	57	42
12	26	22	669	369	642	360	225	39	1670	35	63	43
13	26	22	631	369	1170	358	223	40	1670	35	63	43
14	26	22	605	284	1670	359	222	37	1680	35	58	43
15	25	22	598	284	1670	359	389	37	1690	34	56	41
16	25	22	593	284	1670	359	556	37	1690	34	57	42
17	25	22	592	284	1670	357	561	42	1700	33	58	42
18	26	80	710	25	1620	196	564	42	1620	32	58	42
19	31	148	937	25	1620	33	575	37	1080	32	58	41
20	25	148	1340	25	1620	31	621	187	711	32	56	42
21	25	148	1670	25	1670	31	593	364	642	33	57	42
22	25	148	1720	25	1660	31	577	502	632	33	57	42
23	25	148	1740	242	1660	31	570	644	622	33	56	41
24	25	156	1740	239	1660	31	567	651	625	34	56	45
25	24	162	1740	129	1660	28	568	650	627	34	55	47
26	24	214	1750	129	1650	26	568	654	502	34	44	112
27	24	266	1750	115	1640	21	568	657	684	34	37	189
28	24	266	1750	115	1640	25	569	655	522	48	43	192
29	23	261	1750	115	---	25	568	520	113	59	42	191
30	27	261	1750	115	---	25	568	360	47	58	42	191
31	24	---	1750	115	---	25	---	357	---	56	42	---
TOTAL	795	2792	28825	22635	30762	13673	10879	10788	29819	1187	1696	1940
MEAN	25.6	93.1	930	730	1099	441	363	348	994	38.3	54.7	64.7
MAX	31	266	1750	2580	1670	1630	621	657	1700	59	63	192
MIN	23	22	249	25	115	21	25	37	47	32	37	41
AC-FT	1580	5540	57170	44900	61020	27120	21580	21400	59150	2350	3360	3850

CAL YR 1985 TOTAL 202956 MEAN 556 MAX 1890 MIN 13 AC-FT 402600
WTR YR 1986 TOTAL 155791 MEAN 427 MAX 2580 MIN 21 AC-FT 309000

07346045 BLACK CYPRESS BAYOU AT JEFFERSON, TX

LOCATION.--Lat 32°46'40", long 94°21'26", Marion County, Hydrologic Unit 11140306 near center of channel at downstream side of bridge on U.S. Highway 59, 1.1 mi north of Jefferson, 2.0 mi upstream from Texas and Pacific Railway Co. bridge, and 5.2 mi upstream from mouth.

DRAINAGE AREA.--365 mi^2.

PERIOD OF RECORD.--September 1968 to current year. May 1938 to September 1955 (daily gage heights) and November 1956 to August 1968 (daily gage heights and discharge measurements) published by U.S. Army Corps of Engineers as "Black Cypress Creek at Jefferson". September 1964 to August 1968 operated as low-flow partial-record station only.
Water-quality records.--Chemical analyses: October 1967 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 171.47 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark).

REMARKS.--Estimated daily discharges: Oct. 1-7. Records good except for estimated daily discharges or those below 1.0 ft^3/s, which are poor. No known regulation or diversion in vicinity of gage. Gage-height telemeter at station.

AVERAGE DISCHARGE.--18 years (water years 1969-86), 315 ft^3/s (11.72 in/yr), 228,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,120 ft^3/s Apr. 25, 1974 (gage height, 17.69 ft); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1938, 22.42 ft Apr. 29, 1958, from records of U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
June 27	1900	*3,380	*15.72	No other peak greater than base discharge.			

Minimum discharge, 0.03 ft^3/s Oct. 8-9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	213	443	198	105	163	108	210	126	1450	5.8	3.2
2	.07	156	536	191	105	155	102	270	162	1260	4.0	4.0
3	.06	124	541	185	204	150	98	357	224	1040	4.0	4.4
4	.06	109	476	179	889	145	96	468	311	811	3.6	6.1
5	.05	89	435	171	1040	140	227	624	414	593	3.0	9.3
6	.05	72	404	165	1020	137	324	670	485	394	2.8	18
7	.04	57	353	162	1260	134	268	586	589	272	2.7	18
8	.03	44	289	159	1320	130	243	470	713	226	3.1	13
9	.04	36	239	153	1360	126	289	373	724	205	3.3	9.5
10	.05	27	210	148	1240	125	320	271	674	166	3.5	7.9
11	.06	63	528	145	1050	122	322	208	578	123	3.4	8.0
12	.06	150	1350	141	892	124	314	212	472	93	3.9	9.2
13	.07	192	1750	136	750	132	288	260	378	72	4.1	9.0
14	.10	166	2400	133	646	132	240	304	327	57	4.0	8.1
15	.12	177	2510	131	540	135	189	332	320	45	4.4	7.4
16	.44	202	2170	130	457	146	158	331	323	36	4.4	6.9
17	.80	211	1710	131	402	158	149	341	399	29	4.5	6.2
18	1.9	207	1350	135	358	171	146	438	303	22	4.5	5.9
19	54	197	1080	137	319	220	144	434	239	17	4.2	5.6
20	89	187	881	134	292	262	251	458	219	13	4.1	5.7
21	43	175	731	134	269	250	312	669	214	10	4.0	6.8
22	17	159	611	136	247	224	308	808	193	13	3.7	6.3
23	10	146	495	134	229	212	400	814	154	27	3.5	6.1
24	8.4	155	406	133	215	203	599	763	134	29	3.5	5.8
25	9.6	177	341	158	202	194	827	654	104	77	3.5	5.2
26	8.4	195	293	146	190	179	910	494	89	102	3.4	4.9
27	5.9	223	263	131	182	160	789	337	1860	74	3.2	4.6
28	8.0	274	242	121	173	144	620	213	2640	45	3.1	5.1
29	22	339	226	116	---	133	439	153	1450	26	3.0	5.9
30	72	374	213	112	---	122	282	126	1380	16	2.9	5.1
31	181	---	205	107	---	113	---	117	---	9.7	3.0	---
TOTAL	532.37	4896	23681	4492	15956	4941	9762	12765	16198	7352.7	114.1	221.2
MEAN	17.2	163	764	145	570	159	325	412	540	237	3.68	7.37
MAX	181	374	2510	198	1360	262	910	814	2640	1450	5.8	18
MIN	.03	27	205	107	105	113	96	117	89	9.7	2.7	3.2
CFSM	.05	.45	2.09	.40	1.56	.44	.89	1.13	1.48	.65	.01	.02
IN.	.05	.50	2.41	.46	1.63	.50	.99	1.30	1.65	.75	.01	.02
AC-FT	1060	9710	46970	8910	31650	9800	19360	25320	32130	14580	226	439

CAL YR 1985 TOTAL 109092.48 MEAN 299 MAX 2510 MIN .03 CFSM .82 IN. 11.12 AC-FT 216
WTR YR 1986 TOTAL 100911.37 MEAN 276 MAX 2640 MIN .03 CFSM .76 IN. 10.28 AC-FT 200

07346050 LITTLE CYPRESS CREEK NEAR ORE CITY, TX

LOCATION.--Lat 32°40'21", long 94°45'03", Upshur County, Hydrologic Unit 11140307, on right bank at downstream side of bridge on U.S. Highway 259, 4 mi downstream from Clear Creek, 9 mi south of Ore City, and 12 mi north of Longview.

DRAINAGE AREA.--383 mi².

PERIOD OF RECORD.--December 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 232.67 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 17 to Nov. 19. Records good. No known diversion above station. During the year the city of Gilmer discharged a small amount of sewage effluent into a tributary above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--23 years (water years 1964-86), 256 ft³/s (9.08 in/yr), 185,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,500 ft³/s Apr. 24, 1966 (gage height, 20.20 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1902 occurred in March 1945; maximum stage since 1945, that of Apr. 24, 1966. The flood in April 1958 reached a stage of 19.4 ft, or 1.3 ft lower than the flood of March 1945 at a point 6 mi upstream, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 12	0400	*2,810	*11.58	Feb. 4	2000	2,350	11.21

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	94	590	116	105	98	56	109	57	39	.03	.00
2	.00	135	745	112	104	95	52	158	85	25	.01	.00
3	.00	143	709	109	241	93	49	206	135	18	.03	.00
4	.00	140	570	104	1940	93	55	200	198	15	.04	.00
5	.00	131	440	99	1860	93	201	174	273	13	.04	.00
6	.00	100	317	95	1470	93	442	138	308	14	.03	.00
7	.00	60	206	92	1740	90	498	107	289	18	.01	.00
8	.00	47	141	89	1710	86	407	81	291	18	.01	.00
9	.00	36	116	87	1530	83	326	75	405	12	.00	.46
10	.00	35	111	88	1260	83	261	74	446	8.5	.00	1.8
11	.00	90	1410	88	1040	86	178	79	347	5.7	.00	1.4
12	.00	200	2430	89	866	96	120	85	257	4.2	.00	.93
13	.00	205	1690	89	725	110	121	96	199	3.4	.00	.54
14	.00	220	1550	89	614	105	107	110	203	2.4	.00	.33
15	.00	230	1510	89	522	102	105	102	228	1.8	.00	.20
16	.00	230	1300	89	432	101	94	76	243	1.4	.00	.12
17	.00	190	1150	92	352	97	75	117	243	1.7	.00	.07
18	.00	143	978	100	291	100	60	516	239	1.1	.00	.03
19	.47	103	816	102	245	119	55	745	197	.91	.00	.01
20	2.1	81	668	104	217	126	203	690	120	.77	.00	.00
21	.81	69	534	104	195	158	310	585	75	.66	.00	.01
22	.22	56	420	101	173	185	279	575	54	.60	.00	.02
23	2.0	46	320	99	152	179	245	561	46	.56	.00	.01
24	36	65	246	95	133	138	237	488	61	.50	.00	.01
25	70	195	198	118	119	105	230	401	54	.42	.00	.00
26	65	256	171	165	113	90	218	236	39	.34	.00	.00
27	50	279	156	169	107	81	202	136	35	.27	.00	.00
28	31	382	143	172	102	75	157	110	35	.21	.00	.00
29	32	414	131	157	---	70	115	89	35	.13	.00	.00
30	50	383	123	128	---	65	95	72	43	.07	.00	.00
31	80	---	120	111	---	60	---	58	---	.04	.00	---
TOTAL	419.60	4755	20009	3341	18358	3155	5553	7249	5240	207.68	.20	5.94
MEAN	13.5	159	645	108	656	102	185	234	175	6.70	.01	.20
MAX	80	414	2430	172	1940	185	498	745	446	39	.04	1.8
MIN	.00	35	111	87	102	60	49	58	35	.04	.00	.00
CFSM	.04	.42	1.68	.28	1.71	.27	.48	.61	.46	.02	.00	.00
IN.	.04	.46	1.94	.32	1.78	.31	.54	.70	.51	.02	.00	.00
AC-FT	832	9430	39690	6630	36410	6260	11010	14380	10390	412	.4	12

CAL YR 1985 TOTAL 92024.90 MEAN 252 MAX 2430 MIN .00 CFSM .66 IN. 8.94 AC-FT 182
WTR YR 1986 TOTAL 68293.42 MEAN 187 MAX 2430 MIN .00 CFSM .49 IN. 6.63 AC-FT 135

07346070 LITTLE CYPRESS CREEK NEAR JEFFERSON, TX

LOCATION.--Lat 32°42'50", long 94°20'44", Marion County, Hydrologic Unit 11140307, on downstream side of highway embankment near left end of bridge on U.S. Highway 59, 0.3 mi downstream from Texas and Pacific Railway Co. bridge, 3.3 mi downstream from Grays Creek, 3.5 mi south of Jefferson, and 6.8 mi upstream from mouth.

DRAINAGE AREA.--675 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 174.60 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 19, 1947, nonrecording gage at upstream side of bridge at same datum.

REMARKS.--No estimated daily discharges. Records good. No known diversion above station, but some sewage effluent is discharged into tributaries that enter Little Cypress Creek above this station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--40 years (water years 1947-86), 503 ft^3/s (10.12 in/yr), 364,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,500 ft^3/s Apr. 26, 1966 (gage height, 22.28 ft); no flow at times. Maximum stage since May 1944, that of Apr. 26, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1944 reached a stage of 21.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,090 ft^3/s Dec. 15 at 1900 hours (gage height, 12.32 ft); minimum discharge, 0.03 ft^3/s Oct. 9-17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	216	646	344	246	255	141	386	210	366	.84	2.4
2	.07	247	778	316	237	242	135	469	207	214	.78	2.0
3	.06	271	796	296	240	229	129	482	411	173	.78	1.9
4	.06	280	796	280	743	216	122	429	392	137	.78	2.4
5	.05	268	800	267	983	208	214	400	266	108	.75	3.4
6	.05	220	814	255	1280	200	415	380	390	84	.68	5.0
7	.05	154	824	246	2070	190	449	357	339	67	.64	5.9
8	.04	104	820	238	2550	184	488	328	399	55	.61	6.6
9	.03	72	781	228	2420	182	519	297	394	47	.58	7.3
10	.03	53	707	219	2050	178	538	261	408	42	.54	7.3
11	.03	172	1040	212	1820	173	546	236	394	40	.52	7.4
12	.03	362	1660	208	1740	175	583	224	431	38	.52	8.1
13	.03	382	1750	201	1670	178	598	216	452	31	.62	9.4
14	.03	417	2120	197	1570	178	548	203	454	25	1.1	9.6
15	.03	461	2920	196	1410	181	491	185	425	21	1.5	9.8
16	.03	475	3010	193	1250	188	403	173	388	17	1.5	10
17	.03	441	2530	189	1090	191	310	270	436	13	1.5	10
18	.06	363	2090	186	948	196	249	629	412	9.8	1.5	10
19	2.7	298	1800	184	834	215	236	652	460	7.4	1.5	10
20	7.5	271	1630	183	732	207	590	573	474	5.9	1.5	10
21	4.3	263	1500	187	630	205	718	552	425	4.7	1.5	12
22	2.1	253	1370	193	543	214	619	565	323	3.9	1.4	12
23	18	240	1220	191	476	216	551	582	238	7.9	1.4	12
24	101	267	1090	188	417	215	523	589	205	5.0	1.5	12
25	135	400	949	202	370	227	493	573	178	3.5	2.4	12
26	136	433	835	210	337	239	451	532	171	2.9	2.8	12
27	100	435	728	208	306	237	406	497	1540	2.6	2.9	12
28	67	485	620	213	276	214	396	472	1740	2.3	2.9	11
29	59	506	527	230	---	186	395	437	1090	1.7	2.9	12
30	80	523	451	242	---	165	387	349	672	1.3	2.7	12
31	170	---	386	245	---	151	---	238	---	1.0	2.5	---
TOTAL	883.38	9332	37988	6947	29238	6235	12643	12536	14324	1537.9	43.64	257.5
MEAN	28.5	311	1225	224	1044	201	421	404	477	49.6	1.41	8.58
MAX	170	523	3010	344	2550	255	718	652	1740	366	2.9	12
MIN	.03	53	386	183	237	151	122	173	171	1.0	.52	1.9
CFSM	.04	.46	1.81	.33	1.55	.30	.62	.60	.71	.07	.00	.01
IN.	.05	.51	2.09	.38	1.61	.34	.70	.69	.79	.08	.00	.01
AC-FT	1750	18510	75350	13780	57990	12370	25080	24870	28410	3050	87	511

CAL YR 1985 TOTAL 155084.18 MEAN 425 MAX 3010 MIN .00 CFSM .63 IN. 8.55 AC-FT 307
WTR YR 1986 TOTAL 131965.42 MEAN 362 MAX 3010 MIN .03 CFSM .54 IN. 7.27 AC-FT 261

07346070 LITTLE CYPRESS CREEK NEAR JEFFERSON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: January 1968 to June 1981.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to current year.
WATER TEMPERATURES: October 1967 to current year.

INSTRUMENTATION.--Beginning June 1981, specific conductance and water temperature are recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum or minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,350 microsiemens Nov. 9, 1969; minimum daily, 38 microsiemens June 27, 1986.
WATER TEMPERATURES: Maximum daily, 32.0°C on several days during summer months of 1977-78 and 1980; minimum daily, 0.0°C on several days during winter months of 1983, 1985.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 310 microsiemens Mar. 10; minimum daily, 38 microsiemens June 27.
WATER TEMPERATURES: Maximum daily, 29.5°C on several days during July and August.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV												
20...	1500	271	130	7.00	17.0	120	14	6.4	66	1.2	23	14
JAN												
08...	1500	236	202	6.60	5.5	40	8.0	11.3	--	0.2	33	25
FEB												
19...	1900	810	137	6.20	15.5	70	10	7.9	80	1.0	28	20
APR												
09...	1500	522	147	6.60	20.5	140	14	5.8	65	1.5	25	10
JUN												
04...	1600	341	135	6.50	23.0	160	22	5.7	67	1.2	28	14
JUL												
23...	1600	8.4	197	6.80	30.0	160	21	4.5	--	3.4	37	5

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
NOV												
20...	5.6	2.2	12	1	4.6	9	20	18	<0.1	17	85	2
JAN												
08...	7.7	3.3	21	2	3.0	8	17	41	<0.1	24	120	1
FEB												
19...	6.4	3.0	15	1	3.8	8	19	26	<0.1	16	94	3
APR												
09...	5.8	2.5	16	1	3.7	15	15	24	0.1	15	91	6
JUN												
04...	6.9	2.5	14	1	3.0	14	14	22	<0.1	18	89	24
JUL												
23...	8.9	3.6	22	2	3.1	32	13	31	0.1	20	120	15

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
NOV											
20...	2	--	<0.01	<0.10	0.04	0.56	0.6	0.06	8.9	--	--
JAN											
08...	1	--	<0.01	0.10	0.05	0.45	0.5	0.04	4.5	1	80
FEB											
19...	1	--	<0.01	<0.10	0.04	0.46	0.5	0.04	8.9	--	--
APR											
09...	1	0.08	0.02	0.10	0.12	0.78	0.9	0.08	15	--	--
JUN											
04...	16	0.19	0.01	0.20	0.05	0.55	0.6	0.14	11	--	--
JUL											
23...	3	0.09	0.01	0.10	0.01	0.79	0.8	0.14	--	--	--

07346070 LITTLE CYPRESS CREEK NEAR JEFFERSON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV											
20...	--	--	3	--	2	--	--	1	--	<1	--
JAN											
06...	<1	<10	<1	480	<1	94	0.1	--	<1	<1	24
FEB											
19...	--	--	--	--	--	--	--	--	--	--	--
APR											
09...	--	--	--	--	--	--	--	--	--	--	--
JUN											
04...	--	--	--	--	--	--	--	--	--	--	--
JUL											
23...	--	--	--	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	883.38	153	96	229	25	61	18	42	27
NOV. 1985	9332	129	82	2070	21	524	16	393	24
DEC. 1985	37988	104	67	6860	16	1670	13	1340	20
JAN. 1986	6947	175	109	2050	30	560	19	366	30
FEB. 1986	29238	109	70	5500	17	1380	13	1050	20
MAR. 1986	6235	228	137	2310	42	704	22	373	35
APR. 1986	12643	137	87	2960	22	760	16	557	25
MAY 1986	12536	150	94	3190	25	847	17	584	27
JUNE 1986	14324	111	71	2750	18	682	14	530	21
JULY 1986	1537.9	135	86	356	22	92	16	67	25
AUG. 1986	43.64	185	114	13	32	3.7	20	2.4	31
SEPT 1986	257.5	158	99	69	26	18	18	13	28
TOTAL	131965.42	**	**	28400	**	7300	**	5310	**
WTD.AVG.	362	126	80	**	20	**	15	**	23

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	181	177	180	134	129	131			122	---	---	169
2	181	177	180	171	131	143			120	---	---	173
3	182	176	179	171	158	162			119	---	---	175
4	180	176	179	161	160	160			124	---	---	172
5	180	176	179	160	156	158			123	---	---	174
6	180	177	179	157	156	156			121	---	---	178
7	180	176	178	160	157	158			120	---	---	183
8	181	175	178	163	159	161			122	---	---	184
9	178	174	176	168	162	165			126	---	---	182
10	199	175	181	174	168	171			134	---	---	185
11	198	176	183	174	94	153			122	---	---	184
12	200	177	184	122	94	109			107	---	---	186
13	190	178	183	119	103	109			100	---	---	187
14	188	177	181	102	90	94			75	---	---	189
15	184	177	180	103	89	94			72	193	190	192
16	181	178	179	125	104	116			71	189	180	183
17	181	176	179	135	126	130			74	181	177	179
18	179	173	178	141	135	138			81	179	176	177
19	175	118	139	141	136	138			89	177	173	176
20	197	143	176	135	128	132			99	174	170	172
21	228	199	212	131	127	129			110	172	170	171
22	242	220	229	137	129	132			113	173	171	172
23	280	241	251	144	138	142			118	170	167	169
24	275	181	209	144	133	141			125	171	169	170
25	179	143	158	131	125	128			131	170	164	168
26	143	132	137	132	120	126			139	165	163	164
27	132	130	131	126	119	123			146	164	161	162
28	137	132	134	195	120	130			150	167	161	165
29	156	137	142	---	---	124			157	175	165	168
30	157	144	150	---	---	120			162	179	167	175
31	164	129	140	---	---	---			165	167	162	163
MONTH	280	118	176	195	89	136			117	193	161	176

07346070 LITTLE CYPRESS CREEK NEAR JEFFERSON, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	162	155	158	305	269	279	181	180	180	253	154	195
2	157	154	155	286	282	284	184	180	182	257	194	229
3	159	139	155	292	286	289	186	183	184	196	169	180
4	132	89	100	290	278	285	184	182	183	168	166	167
5	102	85	92	277	273	275	183	123	166	179	168	171
6	84	72	79	278	272	274	147	124	136	196	180	192
7	72	69	70	298	278	288	147	134	139	189	174	180
8	72	71	72	307	300	304	140	135	137	179	173	174
9	74	71	72	307	301	303	149	141	145	173	171	172
10	80	74	77	310	301	303	144	138	141	174	171	173
11	86	80	84	305	297	302	138	136	137	182	173	178
12	93	87	89	295	258	276	137	134	135	190	182	185
13	102	93	97	269	232	244	140	134	136	206	193	199
14	111	102	107	232	227	230	145	139	142	212	203	208
15	117	111	114	227	206	216	149	145	147	217	201	209
16	123	116	119	206	197	200	173	149	158	217	207	213
17	132	123	127	205	195	202	175	173	174	206	120	180
18	144	133	138	194	181	187	167	166	167	117	99	103
19	158	145	151	186	179	181	167	141	161	104	99	102
20	168	158	163	216	180	185	132	97	111	119	105	114
21	176	168	172	187	181	184	106	101	103	130	120	126
22	181	176	178	213	185	190	113	102	106	130	119	125
23	200	181	190	222	200	215	129	109	116	118	112	114
24	219	202	210	208	180	191	137	131	133	116	112	114
25	231	219	226	180	165	173	134	128	130	120	116	118
26	239	231	235	165	161	162	133	129	131	122	120	121
27	253	238	246	164	162	163	137	131	134	130	122	126
28	290	253	262	169	164	166	137	135	136	143	130	136
29	---	---	---	174	170	172	142	137	139	157	144	150
30	---	---	---	177	173	175	153	145	149	164	157	161
31	---	---	---	180	176	178	---	---	---	168	163	165
MONTH	290	69	141	310	161	228	186	97	145	257	99	161

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	168	159	162	106	90	98	183	178	180	177	174	176
2	161	147	158	126	107	116	184	178	181	178	175	176
3	146	96	113	133	127	130	185	181	183	179	174	176
4	142	96	123	149	133	141	185	180	183	178	174	176
5	153	139	142	156	150	153	185	181	184	178	172	175
6	167	129	150	155	154	154	186	181	184	172	169	170
7	162	130	153	156	153	155	187	181	185	172	170	172
8	142	129	134	159	153	156	189	184	186	177	173	174
9	138	126	132	163	159	161	190	184	188	177	170	173
10	139	126	132	165	161	163	190	186	188	173	170	171
11	142	128	134	166	160	164	200	188	190	174	171	173
12	135	129	131	163	160	161	205	202	203	177	91	158
13	132	128	131	171	163	167	212	204	209	140	110	130
14	139	131	134	174	170	171	207	190	201	157	136	148
15	162	140	147	178	169	173	201	190	195	166	146	157
16	165	141	152	182	177	179	199	193	196	161	153	157
17	151	117	133	192	181	187	199	195	197	160	154	157
18	153	102	129	194	189	192	198	195	197	162	157	159
19	120	95	102	197	193	195	200	197	198	166	158	162
20	122	96	106	200	193	196	201	196	198	171	164	167
21	144	108	119	202	197	199	199	195	197	167	157	162
22	150	126	133	201	198	199	201	197	199	165	156	161
23	163	137	144	205	201	203	203	200	202	163	156	159
24	167	132	144	204	203	204	204	200	202	163	156	161
25	143	132	135	223	201	204	201	162	194	166	140	155
26	166	145	156	213	192	197	162	142	157	153	144	148
27	142	38	75	209	184	192	168	161	164	153	149	150
28	73	43	58	199	179	183	174	165	169	154	149	152
29	80	74	77	184	176	179	175	171	174	154	138	149
30	90	81	86	190	176	180	176	174	175	151	139	143
31	---	---	---	191	177	181	176	174	175	---	---	---
MONTH	168	38	128	223	90	172	212	142	188	179	91	162

07346070 LITTLE CYPRESS CREEK NEAR JEFFERSON, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	18.0	17.0	17.5	15.5	15.0	15.0				---	---	---
2	17.5	16.0	16.5	15.0	14.5	15.0				---	---	---
3	17.5	16.0	16.5	14.5	13.5	14.0				---	---	---
4	17.5	16.5	17.0	13.5	12.5	13.0				---	---	---
5	17.5	16.0	16.5	13.0	12.0	12.5				---	---	---
6	16.5	15.0	16.0	13.0	12.0	12.5				---	---	---
7	16.0	15.0	15.5	13.0	12.5	13.0				---	---	---
8	17.0	16.0	16.5	13.0	12.0	12.5				---	---	---
9	18.0	17.0	17.5	14.0	12.5	13.5				---	---	---
10	19.0	18.0	18.5	16.0	14.5	15.0				---	---	---
11	20.0	19.0	19.5	18.5	16.0	17.0				---	---	---
12	21.0	20.0	20.5	19.0	18.5	18.5				---	---	---
13	22.0	21.0	21.5	19.0	18.5	19.0				---	---	---
14	22.5	21.5	22.0	19.5	19.0	19.0				---	---	---
15	21.5	21.0	21.5	19.5	19.0	19.5				6.5	5.5	6.0
16	21.5	20.5	21.0	19.0	17.5	18.0				8.0	6.0	7.0
17	21.0	20.5	21.0	17.5	17.0	17.0				9.5	8.0	8.5
18	21.5	21.0	21.5	18.5	17.0	18.0				10.5	9.5	10.0
19	21.5	21.0	21.5	19.0	18.5	18.5				10.5	9.5	10.0
20	21.5	21.5	21.5	18.5	15.5	17.0				10.0	9.0	9.5
21	21.5	21.0	21.0	15.5	14.0	14.5				11.5	9.5	10.5
22	21.5	21.0	21.0	14.0	13.5	14.0				11.5	11.0	11.5
23	21.5	21.0	21.0	14.5	14.0	14.0				11.0	9.5	10.0
24	21.5	20.5	21.0	16.0	15.0	15.5				9.5	9.0	9.0
25	21.5	21.0	21.5	17.0	16.0	16.5				10.0	9.0	9.5
26	21.5	20.5	20.5	18.5	17.5	18.0				10.0	9.0	9.5
27	20.0	19.5	19.5	18.5	17.5	18.5				9.0	7.0	7.5
28	19.0	18.5	19.0	17.0	---	16.0				7.0	5.5	6.5
29	18.5	18.0	18.0	---	---	---				8.5	6.5	7.5
30	18.0	16.5	17.0	---	---	---				9.0	8.0	8.5
31	16.5	15.5	16.0	---	---	---				10.0	8.5	9.5
MONTH	22.5	15.0	19.0	19.5	12.0	16.0				11.5	5.5	9.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	11.5	10.0	11.0	12.0	10.5	11.0	19.5	18.5	19.0	21.0	20.5	20.5
2	13.5	11.5	12.5	12.0	10.0	11.0	19.5	19.0	19.5	20.5	19.5	20.0
3	14.5	13.5	14.0	13.0	12.0	12.5	20.0	19.5	19.5	19.5	18.5	19.0
4	15.0	14.0	14.5	13.0	12.0	12.5	20.5	19.5	20.0	19.0	18.0	19.0
5	15.0	14.0	14.5	13.5	12.0	12.5	20.5	19.0	20.0	19.5	18.5	19.0
6	14.5	13.5	14.0	14.0	12.5	13.0	20.5	19.0	19.5	21.0	19.5	20.5
7	13.5	12.5	13.0	14.0	12.5	13.0	21.5	20.0	21.0	22.0	21.0	21.5
8	12.5	11.5	12.0	14.5	13.0	13.5	21.5	21.0	21.5	22.5	22.0	22.0
9	11.5	10.0	10.5	16.0	14.0	15.0	21.0	20.0	20.5	23.0	22.0	22.5
10	9.5	7.5	8.5	17.5	16.0	16.5	19.5	19.0	19.0	23.0	22.5	22.5
11	7.5	6.5	7.0	17.5	16.5	16.5	19.0	18.5	18.5	22.5	21.5	22.0
12	6.0	5.0	5.5	17.0	16.0	16.5	18.5	18.0	18.5	22.5	21.5	22.0
13	5.5	4.5	5.0	17.5	16.0	17.0	19.0	18.0	18.5	23.0	22.0	22.5
14	7.0	5.0	6.0	17.5	16.5	17.0	20.0	19.0	19.5	23.0	22.5	23.0
15	8.0	6.5	7.0	17.5	16.5	17.0	19.0	18.0	18.5	23.5	22.5	23.0
16	11.0	8.0	9.5	17.0	16.0	16.5	18.0	17.0	17.5	23.5	23.0	23.0
17	14.0	11.0	12.5	17.0	16.0	16.5	17.5	16.5	17.0	23.0	20.0	22.0
18	15.0	13.0	14.0	18.0	16.5	17.0	17.5	16.5	17.0	20.0	19.0	19.5
19	15.5	14.0	15.0	17.5	16.5	17.0	18.5	17.5	18.0	20.0	19.5	19.5
20	16.5	15.0	15.5	16.5	15.0	15.5	18.0	17.0	17.5	19.5	19.0	19.5
21	16.0	14.0	15.0	15.0	13.5	14.0	18.0	17.5	17.5	20.0	19.0	19.5
22	14.0	13.0	13.5	13.5	12.0	13.0	17.5	17.0	17.0	20.5	19.5	20.0
23	13.0	12.0	12.5	14.5	12.5	13.5	17.5	16.5	17.0	22.0	20.5	21.0
24	13.0	12.0	12.5	15.0	13.5	14.5	18.5	17.0	17.5	22.5	21.5	22.0
25	13.5	12.0	13.0	16.0	14.0	15.0	19.5	18.0	19.0	22.0	21.5	22.0
26	15.0	13.0	13.5	17.0	15.5	16.0	20.0	19.0	19.5	22.0	21.5	22.0
27	14.5	14.0	14.5	17.5	16.0	16.5	20.5	20.0	20.0	21.5	21.0	21.5
28	14.0	12.0	13.0	18.0	16.5	17.0	20.5	20.0	20.0	22.0	21.5	21.5
29	---	---	---	18.5	17.0	18.0	20.5	19.5	20.0	22.0	21.0	21.5
30	---	---	---	19.0	17.5	18.5	21.0	20.5	20.5	22.5	21.5	22.0
31	---	---	---	19.0	18.0	18.5	---	---	---	22.5	22.0	22.0
MONTH	16.5	4.5	12.0	19.0	10.0	15.0	21.5	16.5	19.0	23.5	18.0	21.0

07346070 LITTLE CYPRESS CREEK NEAR JEFFERSON, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	23.0	22.0	22.5	27.0	26.0	26.5	29.5	28.5	29.0	24.0	23.5	23.5
2	23.0	22.5	23.0	27.0	26.5	26.5	29.5	28.5	29.0	24.0	23.5	24.0
3	23.0	22.5	22.5	26.5	25.5	26.5	29.5	28.5	29.0	25.0	24.0	24.5
4	23.5	22.0	23.0	27.0	26.0	26.5	28.5	27.5	28.0	25.5	25.0	25.0
5	23.5	23.0	23.5	27.5	26.0	27.0	28.5	27.0	27.5	26.0	25.0	25.5
6	24.0	23.5	23.5	27.5	26.5	27.0	28.0	26.5	27.5	25.0	24.5	24.5
7	24.0	23.5	23.5	27.5	26.5	27.0	28.0	27.0	27.5	24.5	24.0	24.5
8	24.0	24.0	24.0	28.0	26.5	27.0	28.5	27.0	28.0	24.5	24.0	24.5
9	24.0	23.5	24.0	28.0	26.5	27.5	28.5	27.5	28.0	24.5	24.0	24.5
10	25.0	24.0	24.5	28.0	27.0	27.5	28.5	27.5	28.0	25.0	24.5	25.0
11	25.0	24.0	24.5	28.5	27.0	27.5	28.0	27.0	27.5	25.5	25.0	25.5
12	24.5	24.0	24.0	28.0	27.0	27.5	27.0	26.0	26.5	25.5	24.5	25.0
13	---	---	24.0	28.5	27.0	28.0	27.0	25.5	26.5	24.5	23.5	24.0
14	24.5	24.0	24.0	29.0	27.5	28.0	26.5	25.0	26.0	24.0	23.5	23.5
15	25.0	24.0	24.5	29.0	27.5	28.0	27.0	25.5	26.5	24.0	23.5	24.0
16	25.0	24.5	24.5	29.0	27.5	28.0	27.5	26.5	27.0	24.5	24.0	24.0
17	24.5	23.5	24.0	29.0	27.0	28.0	28.0	27.0	27.5	25.0	24.5	24.5
18	24.5	24.0	24.0	29.0	27.0	28.0	28.5	28.0	28.0	25.0	25.0	25.0
19	25.0	24.0	24.5	29.0	27.0	28.0	28.5	27.0	27.5	25.5	25.0	25.5
20	25.5	24.5	25.0	29.5	27.5	28.0	28.0	27.0	27.5	25.5	25.0	25.0
21	26.0	25.0	25.5	29.5	28.0	28.5	27.5	26.5	27.5	25.0	24.5	24.5
22	26.0	25.0	25.5	29.0	27.5	28.0	27.5	26.5	27.0	25.0	24.5	24.5
23	26.5	25.5	26.0	29.0	27.0	28.0	27.5	26.5	27.0	25.0	24.5	25.0
24	26.5	26.0	26.0	29.0	27.5	28.5	27.0	26.0	26.5	25.5	25.0	25.0
25	26.5	25.5	26.0	29.0	28.0	28.5	26.0	25.0	25.5	25.5	25.0	25.5
26	26.5	26.0	26.5	29.5	28.0	29.0	26.5	25.5	26.0	26.0	25.5	25.5
27	26.0	23.0	24.5	29.5	28.5	29.0	27.0	26.0	26.5	26.0	25.5	26.0
28	25.5	24.0	25.0	29.5	28.5	29.0	27.0	26.0	26.5	26.0	26.0	26.0
29	26.0	25.5	26.0	29.5	28.5	29.0	26.0	24.5	25.0	26.0	25.5	26.0
30	26.5	26.0	26.0	29.5	28.5	29.0	25.0	23.0	24.0	26.0	26.0	26.0
31	---	---	---	29.5	28.5	29.0	24.0	23.0	23.5	---	---	---
MONTH	26.5	22.0	24.5	29.5	25.5	28.0	29.5	23.0	27.0	26.0	23.5	25.0

07346140 FRAZIER CREEK NEAR LINDEN, TX

LOCATION.--Lat 33°03'14", long 94°17'24", Cass County, Hydrologic Unit 11140306, on right bank at downstream side of bridge on U.S. Highway 59, 1.6 mi upstream from Colley Creek, 3.7 mi upstream from Johns Creek, and 5.3 mi northeast of Linden.

DRAINAGE AREA.--48.0 mi².

PERIOD OF RECORD.--August 1958 to June 1961 (low-flow partial record only), November 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 228.7 ft above National Geodetic Vertical Datum of 1929 (State Department of Highways and Public Transportation bridge plans).

REMARKS.--No estimated daily discharges. Records good. No known diversion. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years (water years 1966-86), 40.5 ft³/s (11.46 in/yr), 29,340 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,010 ft³/s Apr. 22, 1974 (gage height, 12.51); no flow at times for most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1945, 15.6 ft Apr. 26, 27, 1958, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 11	1700	*2,730	*11.04	Apr. 20	2100	717	8.93

Minimum daily discharge, no flow many days in October, August, and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	16	70	30	17	19	16	53	20	37	.08	.00
2	.00	7.3	73	27	18	20	16	184	31	31	.03	.00
3	.00	4.2	35	27	65	21	16	282	133	55	.03	.00
4	.00	2.8	28	27	385	21	16	105	96	34	.02	.00
5	.00	2.2	23	25	334	19	64	58	76	25	.08	.00
6	.00	2.2	19	23	173	19	121	46	87	21	12	.00
7	.00	2.2	17	25	122	18	51	39	53	19	13	.00
8	.00	2.2	18	23	77	18	32	34	39	16	2.8	.34
9	.00	2.2	18	22	65	18	26	32	41	15	.84	.05
10	.00	2.2	18	22	70	20	21	59	46	13	.24	.24
11	.00	18	1170	22	68	18	19	46	46	12	.13	.10
12	.00	96	775	22	52	26	25	42	55	11	.08	.05
13	.00	102	309	21	45	33	33	31	32	9.0	.00	.00
14	.00	30	200	20	44	23	23	26	25	7.7	.00	.00
15	.00	17	123	20	41	21	18	23	21	6.5	.00	.00
16	.00	13	90	20	39	33	15	21	20	4.6	.00	.00
17	.00	17	74	22	39	38	15	65	24	3.4	.00	.00
18	.02	32	65	27	36	35	19	177	24	2.4	.00	.00
19	2.3	29	55	25	33	50	40	155	20	1.9	.00	.00
20	7.2	19	50	22	31	30	414	60	18	1.8	.00	.04
21	2.8	17	46	21	28	22	409	39	16	1.8	.00	8.8
22	1.9	14	44	20	26	20	140	32	16	30	.00	6.6
23	1.9	12	43	18	25	19	64	27	15	18	.00	3.2
24	1.9	12	42	19	25	19	47	25	14	12	.00	1.4
25	1.9	35	36	19	23	19	39	32	14	7.1	.00	.42
26	1.8	59	31	18	23	19	33	32	314	3.8	.00	.03
27	1.7	48	32	17	23	18	30	26	108	2.8	.00	.00
28	1.8	80	33	16	21	17	77	23	249	1.4	.00	.00
29	3.9	42	30	17	---	17	144	21	166	.84	.00	.00
30	12	28	30	17	---	17	68	19	69	.34	.00	.00
31	25	---	31	17	---	16	---	18	---	.20	.00	---
TOTAL	66.12	763.5	3628	671	1948	703	2051	1832	1888	404.58	29.33	21.27
MEAN	2.13	25.4	117	21.6	69.6	22.7	68.4	59.1	62.9	13.1	.95	.71
MAX	25	102	1170	30	385	50	414	282	314	55	13	8.8
MIN	.00	2.2	17	16	17	16	15	18	14	.20	.00	.00
CFSM	.04	.53	2.44	.45	1.45	.47	1.42	1.23	1.31	.27	.02	.01
IN.	.05	.59	2.81	.52	1.51	.54	1.59	1.42	1.46	.31	.02	.02
AC-FT	131	1510	7200	1330	3860	1390	4070	3630	3740	802	58	42

CAL YR 1985 TOTAL 14859.38 MEAN 40.7 MAX 1170 MIN .00 CFSM .85 IN. 11.52 AC-FT 29470
WTR YR 1986 TOTAL 14005.80 MEAN 38.4 MAX 1170 MIN .00 CFSM .80 IN. 10.85 AC-FT 27780

SABINE RIVER MAIN STEM

08017200 COWLEECH FORK SABINE RIVER AT GREENVILLE, TX

LOCATION.--Lat 33°07'58", long 96°04'36", Hunt County, Hydrologic Unit 12010001, on left bank 103 ft downstream from centerline of downstream bridge on Interstate Highway 30 (U.S. Highway 67), 0.3 mi downstream from Horse Creek, 0.9 mi downstream from Louisiana and Arkansas Railroad Co. bridge, 1.8 mi east of Greenville, and at mile 558.3.

DRAINAGE AREA.--77.7 mi².

PERIOD OF RECORD.--February 1959 to current year. Prior to October 1963, published as Sabine River at Greenville.

REVISED RECORDS.--WSP 1732: Drainage area. WSP 2122: 1960, 1963-65.

GAGE.--Water-stage recorder. Datum of gage is 485.07 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Feb. 25 to Apr. 2. Records good except those for estimated daily discharges, which are fair. The city of Greenville diverted water from city lakes upstream from the gage and from Lake Tawakoni for municipal use. Sewage effluent is returned to a tributary downstream from gage. Extreme low flow is largely sustained by return water from water treatment plant upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--27 years (water years 1960-86), 61.6 ft³/s (10.77 in/yr), 44,630 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,300 ft³/s May 13, 1982 (gage height, 18.47 ft); no flow in 1964, 1969-70, 1972-73, and 1977-86.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1895, 22 ft in May 1935, from information by local resident and city engineer of Greenville. Flood of July 3, 1913, reached a stage of 20 ft, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Apr. 5	0715	*5,190	*16.74	No other peak greater than base discharge.			

Minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	6.6	108	.28	.13	.45	.35	5.6	27	1.7	.10	.02
2	.10	1.8	42	.28	.13	.42	.48	3.6	393	1.6	.08	3.2
3	.07	.39	13	.28	94	.45	1.8	2.6	226	23	.08	.18
4	.04	.20	8.2	.28	323	.40	159	2.0	154	195	.07	.35
5	.03	.03	6.3	.27	51	.34	3070	1.3	303	19	.07	41
6	.00	.01	5.1	.27	1090	.40	339	1.1	267	5.8	.08	111
7	.00	.00	3.6	.26	107	.40	20	.94	168	3.6	.09	14
8	.00	.08	3.2	.23	50	.40	8.4	1.6	161	2.3	.08	7.7
9	.00	.06	2.9	.21	30	.40	5.1	19	28	1.0	.08	4.8
10	.00	.04	225	.21	18	.40	3.6	621	13	.61	.08	1.9
11	.00	153	1630	.21	9.5	3.0	3.0	83	1680	.40	.07	.89
12	.00	159	204	.21	5.7	2.0	8.4	18	245	.24	.04	1.6
13	.00	14	41	.20	4.3	1.6	4.5	7.6	26	.24	.04	1.9
14	.15	7.5	10	.20	3.6	1.0	3.2	4.5	10	.25	.02	2.3
15	.05	206	4.2	.19	3.1	.68	2.1	3.3	5.1	.25	.04	2.5
16	.00	248	2.5	.19	2.8	.35	1.4	2.3	330	.20	.04	2.5
17	3.3	389	1.6	.34	3.1	.25	2.4	861	1330	.20	.04	2.5
18	9.6	194	1.2	.47	3.2	.31	2.5	1230	76	.08	.04	1.2
19	112	60	.89	.32	1.8	.45	124	81	28	.07	.02	.54
20	46	23	.75	.28	1.5	.65	787	19	16	.10	.02	.43
21	4.3	11	.61	.28	.95	.54	40	9.7	7.5	.08	.02	.38
22	.71	7.0	.54	.27	.70	.42	11	6.4	5.4	.07	.01	1.2
23	.24	5.5	.48	.27	.50	.33	6.0	4.9	4.8	.11	.01	8.9
24	.11	12	.42	.26	.52	.26	3.9	6.0	66	.10	.01	3.0
25	.07	59	.36	.23	.62	.25	3.1	7.1	196	.14	.01	1.3
26	.01	66	.32	.18	.59	.24	2.6	5.2	25	.11	.00	.65
27	.00	821	.32	.15	.53	.23	5.3	4.6	8.7	.10	.00	.35
28	2.1	140	.32	.14	.49	.24	4.4	3.7	5.1	.09	.00	.23
29	122	27	.30	.14	---	.26	2.6	2.9	3.7	.12	.01	.23
30	60	13	.28	.13	---	.28	1.8	2.6	2.5	.09	.01	.27
31	25	---	.28	.13	---	.26	---	2.9	---	.09	.01	---
TOTAL	385.98	2624.21	2317.87	7.36	1806.76	17.66	4626.93	3024.44	5810.8	256.74	1.27	217.02
MEAN	12.5	87.5	74.8	.24	64.5	.57	154	97.6	194	8.28	.04	7.23
MAX	122	821	1630	.47	1090	3.0	3070	1230	1680	195	.10	111
MIN	.00	.00	.28	.13	.13	.23	.35	.94	2.5	.07	.00	.02
CFSM	.16	1.13	.96	.00	.83	.01	1.98	1.26	2.50	.11	.00	.09
IN.	.18	1.26	1.11	.00	.87	.01	2.22	1.45	2.78	.12	.00	.10
AC-FT	766	5210	4600	15	3580	35	9180	6000	11530	509	2.5	430

CAL YR 1985 TOTAL 24023.77 MEAN 65.8 MAX 3470 MIN .00 CFSM .85 IN. 11.50 AC-FT 47650
WTR YR 1986 TOTAL 21097.04 MEAN 57.8 MAX 3070 MIN .00 CFSM .74 IN. 10.10 AC-FT 41850

08017300 SOUTH FORK SABINE RIVER NEAR QUINLAN, TX

LOCATION.--Lat 32°53'52", long 96°15'11", Hunt County, Hydrologic Unit 12010001, on right bank at downstream side of bridge on Farm Road 1565, 2.4 mi upstream from Dry Creek, 6.2 mi upstream from Bearpen Creek, 7 mi southwest of Quinlan, and 25 mi upstream from mouth.

DRAINAGE AREA.--78.7 mi^2.

PERIOD OF RECORD.--February 1959 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 461.0 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Apr. 17, 18, 24-27, 30, May 4-9, 14-16, 22-24, 28-30, and June 27-29. Records fair. The city of Royse City discharges sewage effluent into the river above this station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--27 years (water years 1960-86), 80.8 ft^3/s (13.94 in/yr), 58,540 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,000 ft^3/s June 16, 1981 (gage height, 18.24 ft); maximum gage height, 18.77 ft Apr. 5, 1986; no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1890, 21 ft July 29, 1902, from information by local resident. Flood of Apr. 27, 1957, reached a stage of 17.76 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 11	0430	7,320	16.95	May 18	0145	3,920	16.35
Apr. 5	0800	*21,200	*18.77	June 17	0130	3,310	16.23
May 10	1700	3,550	16.28				

Minimum daily discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	20	57	.45	.68	.28	.22	104	324	.04	.00	.00
2	.00	5.7	24	.46	.84	.24	.22	105	1650	41	.00	.00
3	.00	1.4	7.9	.32	344	.30	.26	75	757	99	.00	.00
4	.00	.44	3.7	.29	992	.48	435	2.6	81	21	.00	.00
5	.00	.22	2.0	.26	145	.59	8130	.87	420	1.7	.00	.00
6	.00	.11	1.1	.24	1160	.57	626	.52	611	.27	.00	.00
7	.00	.07	.65	.22	192	.55	63	.45	129	.09	.00	.00
8	.00	.05	.41	.19	192	.54	32	.42	201	.04	.00	.00
9	.00	.04	.29	.17	72	.57	9.5	.39	21	.02	.00	.00
10	.00	.07	435	.19	101	.55	2.8	1890	6.7	.02	.00	.00
11	.00	.12	4280	.21	33	2.5	1.6	919	336	.02	.00	.00
12	.00	31	403	.25	14	5.0	580	84	173	.02	.00	.00
13	.00	12	148	.31	5.5	3.7	284	27	16	.01	.00	.00
14	.00	4.2	31	.32	2.9	1.8	28	4.1	5.3	.00	.00	.00
15	.00	88	15	.33	1.4	.85	8.7	.97	11	.00	.00	.00
16	.00	192	9.4	.33	.76	.48	3.5	.69	369	.00	.00	.00
17	.00	220	6.1	.52	.56	.30	1.7	957	1760	.00	.00	.00
18	.00	272	3.7	.77	.32	.29	.97	2540	135	.00	.00	.00
19	486	107	2.2	.56	.20	.34	216	246	238	.00	.00	.00
20	306	52	1.4	.51	.14	.77	902	48	579	.00	.00	.00
21	23	12	1.0	.51	.19	.83	108	11	53	.00	.00	.00
22	5.0	4.8	.81	.50	.24	.53	28	2.4	10	1.3	.00	.00
23	.78	2.3	.87	.49	.27	.30	5.4	1.0	2.5	1.4	.00	.00
24	.23	2.3	.95	.52	.33	.22	1.8	.78	189	.11	.00	.00
25	.11	26	.75	.50	.37	.18	.78	87	120	.02	.00	.00
26	.06	14	.54	.49	.37	.17	.55	56	13	.01	.00	.00
27	.04	926	.44	.51	.39	.19	.42	8.2	3.1	.00	.00	.00
28	.05	369	.42	.54	.34	.17	48	2.2	.65	.00	.00	.00
29	381	47	.50	.51	---	.17	5.7	.97	.19	.00	.00	.00
30	233	23	.52	.47	---	.19	1.3	.65	.09	.00	.00	.00
31	93	---	.46	.66	---	.22	---	41	---	.00	.00	---
TOTAL	1528.27	2432.82	5439.11	12.60	3260.80	23.87	11524.92	7167.21	8214.53	166.07	.00	.00
MEAN	49.3	81.1	175	.41	116	.77	384	231	274	5.36	.00	.00
MAX	486	926	4280	.77	1160	5.0	8130	2540	1760	99	.00	.00
MIN	.00	.04	.29	.17	.14	.17	.22	.39	.09	.00	.00	.00
CFSM	.63	1.03	2.22	.01	1.47	.01	4.88	2.94	3.48	.07	.00	.00
IN.	.72	1.15	2.57	.01	1.54	.01	5.45	3.39	3.88	.08	.00	.00
AC-FT	3030	4830	10790	25	6470	47	22860	14220	16290	329	.00	.00

CAL YR 1985 TOTAL 45168.55 MEAN 124 MAX 10300 MIN .00 CFSM 1.58 IN. 21.35 AC-FT 89590

WTR YR 1986 TOTAL 39770.20 MEAN 109 MAX 8130 MIN .00 CFSM 1.39 IN. 18.80 AC-FT 78880

08017400 LAKE TAWAKONI NEAR WILLS POINT, TX

LOCATION.--Lat 32°48'31", long 95°55'10", Van-Zandt County, Hydrologic Unit 12010001, in stairwell at left end of spillway of Iron Bridge Dam on Sabine River, 750 ft upstream from bridge on Farm Road 47, 3.8 mi upstream from McBee Creek 9.0 mi northeast of Wills Point, and at mile 514.5.

DRAINAGE AREA.--756 mi².

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Lake is formed by a rolled earthfill dam 29,500 ft long, including a 480-foot uncontrolled concrete ogee spillway. Outlet works consist of two 4- by 6-foot sluice gates and two 20-inch steel pipes controlled by service valves. Closure of earthen dam began July 1, 1960, and deliberate impoundment of water began Oct. 7, 1960. Capacity table is based on a 1956 survey. Diversions are made for municipal use by the city of Dallas and various other users in the Sabine River basin. The lake was built for water conservation. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	454.0	-
Design flood..	446.2	1,290,000
Crest of spillway..	437.5	936,200
Lowest intake to wet well (invert)........................	416.5	342,700
Lowest gated outlet (invert)............................	378.0	0

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,130,000 acre-ft May 1, 1966 (elevation, 442.58 ft); minimum since lake first filled in May 1965, 802,700 aver-ft Oct. 21, 1972 (elevation, 433.65 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,030,000 acre-ft Apr. 5 at 2000 hours (elevation, 440.02 ft); minimum, 831,300 acre-ft Oct. 17 (elevation, 434.50 ft).

Capacity table (elevation, in feet, and contents, in acre-feet)

434.0	814,300	438.0	954,300
435.0	848,200	439.0	991,200
437.0	918,200	440.0	1,029,000
		441.0	1,067,000

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	843800	859700	915400	941700	931900	940200	926500	959900	958800	953600	914700	883200
2	842800	858700	912900	941700	935500	939900	930100	958400	969100	952500	913600	884200
3	841400	857600	911500	939900	961300	939100	942000	956200	982400	951100	913300	883500
4	841400	856900	912900	940600	970900	939500	1018000	954000	985700	950300	912200	884600
5	839400	855500	911200	938400	975000	938100	1030000	952500	988300	948500	910100	887700
6	837700	856900	910100	938100	977200	937300	1023000	951100	990500	946400	909100	888100
7	835700	854500	910100	937700	975000	936200	1013000	950000	992400	944900	907700	888400
8	833600	852400	909800	936200	973500	934800	1004000	949600	988700	943100	907000	887000
9	834000	852400	909100	935900	970900	936600	996500	952900	983900	941300	905200	886300
10	834600	853800	939100	935200	967200	936600	990100	962400	979100	939100	904900	884900
11	833300	855500	971300	935200	964300	937300	989400	970600	981600	938100	904200	886300
12	833300	858000	984600	934400	961000	937000	985700	970900	982800	937000	902800	884900
13	832600	859000	980200	934400	960200	936200	980900	968000	978300	935500	901000	883500
14	834600	860100	975400	934100	957300	936200	979800	963200	973500	934400	900000	882800
15	832900	868100	971700	934100	956900	935500	976500	962100	972000	933000	898900	882800
16	831600	871600	969100	934400	955800	935900	971300	958800	986100	931900	897900	881400
17	832600	875800	966100	934400	954300	935900	967200	976100	990500	930800	897200	880700
18	843800	881100	963600	934100	953200	933400	966500	989400	986400	929700	895800	880000
19	852400	888100	960600	933700	953200	931500	973500	993900	983100	929000	894400	879300
20	855500	885600	958000	934400	950300	930100	976100	987900	979100	928300	893300	878600
21	856200	885300	956200	932300	948900	929700	978000	982800	974600	927600	891900	878600
22	855500	884600	955100	930500	947100	929700	973200	978000	969800	926800	890200	878300
23	855500	884900	953200	931900	946700	928700	969800	974600	967200	925800	889100	877200
24	855500	887000	952900	931900	945600	929400	967200	970900	965400	924700	888100	875800
25	855500	886700	948200	929700	944600	929000	963900	968700	963200	923200	887400	874800
26	854800	893700	947800	927200	944600	928700	961000	965400	959500	922100	886300	873700
27	854500	904900	947100	927600	944600	928300	964300	962400	958000	920700	885300	873400
28	858300	911200	945600	925800	940200	927600	961700	959500	955400	919600	887000	872700
29	859400	912600	944600	925800	---	927200	959500	957300	952500	918200	885600	871600
30	861100	918900	944200	925400	---	927200	959100	954700	951100	916800	883900	871600
31	860100	---	942800	925800	---	927200	---	956200	---	916100	882500	---
MAX	861100	918900	984600	941700	977200	940200	1030000	993900	992400	953600	914700	888400
MIN	831600	852400	909100	925400	931900	927200	926500	949600	951100	916100	882500	871600
(†)	435.34	437.02	437.68	437.21	437.61	437.25	438.13	438.05	437.91	436.94	435.98	435.67
(‡)	+14,000	+58,000	+23,900	-17,000	+14,400	-13,000	+31,900	-2,900	-5,100	-35,000	-33,600	-10,900

CAL YR 1985 MAX 989400 MIN 831600 (‡) -31,500
WTR YR 1986 MAX 1030000 MIN 831600 (‡) +25,500

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

08017410 SABINE RIVER NEAR WILLS POINT, TX

LOCATION.--Lat 32°48'22", long 95°55'09", Van Zandt County, Hydrologic Unit 12010001, on right bank at downstream side of bridge on Farm Road 47, 750 ft downstream from Iron Bridge Dam that forms Lake Tawakoni, 3.6 mi upstream from McBee Creek, 9.0 mi northeast of Wills Point, and at mile 514.3.

DRAINAGE AREA.--756 mi².

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 370.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1-7, Jan. 31, and July 24-28. Records fair except those for periods of estimated daily discharges, which are poor. Flow regulated by Lake Tawakoni (see station 08017400). Several observations of water temperatures were obtained during the year.

AVERAGE DISCHARGE.--16 years, 404 ft³/s (290,700 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft³/s Dec. 11, 1971 (gage height, 18.5 ft, from graph based on gage readings); no flow most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since construction of Iron Bridge Dam in 1960, about 21,000 ft³/s May 1, 1966, from theoretical rating curve of flow over dam 750 ft upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,260 ft³/s Apr. 5 at 2300 hours (gage height, 14.80 ft), from crest-stage gage; minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	.13	283	275	6.5	147	.00	870	769	606	.34	.01
2	.40	.00	125	208	276	91	.00	893	953	603	.31	.00
3	.40	.00	.92	197	689	87	.00	808	1910	660	.96	.20
4	.40	.08	.27	367	1120	127	4.1	737	2550	634	.15	.41
5	.40	.00	17	209	1500	47	6020	664	2710	563	.09	.45
6	.40	.02	.00	55	1830	94	6000	629	2830	499	.33	.01
7	.40	.18	.00	237	1720	19	5230	578	2920	443	.22	.50
8	.39	.00	.00	217	1630	15	4440	536	2950	384	.09	.13
9	.40	.00	.00	30	1500	9.0	3840	533	2690	327	.17	.00
10	.40	.00	32	38	1250	53	3280	782	2360	270	.27	.00
11	.35	.16	706	37	1070	15	2920	1280	2400	199	.16	.15
12	.23	.00	1990	45	886	29	2740	1630	2460	122	.06	.05
13	.17	.00	2310	57	870	62	2480	1510	2390	95	.01	.01
14	.57	.00	1840	4.7	714	72	2280	1230	2000	63	.01	.01
15	.29	3.5	1580	2.1	645	21	1980	1030	1700	32	.01	.16
16	.28	35	1320	1.6	594	17	1680	950	1830	16	.01	.32
17	.27	.04	1160	2.2	542	2.7	1310	1180	2740	7.3	.01	.53
18	2.4	.00	1030	3.6	500	113	1100	2360	2990	5.0	.01	.77
19	487	30	850	8.7	480	395	1290	3100	2790	7.0	.01	.84
20	314	7.2	748	.61	479	202	2400	2950	2640	14	.00	.91
21	.14	.00	645	61	404	14	2700	2670	2310	9.5	.00	1.1
22	.06	.00	576	195	344	.00	2200	2270	2060	20	.00	1.2
23	.01	.00	507	.62	304	.00	1630	1860	1730	3.6	.00	1.3
24	.01	113	732	.15	296	.00	1350	1560	1400	1.0	.00	1.6
25	.01	108	549	93	272	.00	1110	1310	1120	.40	.00	1.8
26	.01	.04	466	377	290	.00	992	1090	1030	.37	.00	1.8
27	.01	367	428	161	450	.00	940	1010	949	.35	.35	1.9
28	11	253	391	.00	569	.00	977	939	864	.30	.14	2.1
29	30	.00	348	28	---	.00	933	846	793	.28	.00	1.7
30	9.2	.00	302	3.4	---	.00	869	763	696	.73	.00	1.7
31	1.6	---	447	2.0	---	.00	---	665	---	.83	.00	---
TOTAL	861.60	917.35	19383.19	2996.68	21230.5	1631.70	62695.10	39233	59534	5586.66	3.71	21.66
MEAN	27.8	30.6	625	96.7	758	52.6	2090	1266	1984	180	.12	.72
MAX	487	367	2310	377	1830	395	6020	3100	2990	660	.96	2.1
MIN	.01	.00	.00	.00	6.5	.00	.00	533	696	.28	.00	.00
AC-FT	1710	1820	38450	5940	42110	3240	124400	77820	118100	11080	7.4	43

CAL YR 1985 TOTAL 169759.54 MEAN 465 MAX 5900 MIN .00 AC-FT 336700
WTR YR 1986 TOTAL 214095.15 MEAN 587 MAX 6020 MIN .00 AC-FT 424700

08018500 SABINE RIVER NEAR MINEOLA, TX

LOCATION.--Lat 32°36'49", long 95°29'08", Wood County, Hydrologic Unit 12010001, on left bank at downstream side of highway embankment 3 ft downstream from left end of bridge on U. S. Highway 69, 3.5 mi south of Mineola, 4.5 mi upstream from Missouri Pacific Railway Lines bridge, 16.2 mi upstream from Lake Fork Creek, and at mile 461.1.

DRAINAGE AREA.--1,357 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1939 to September 1959, October 1967 to current year. Gage-height records collected at this site since July 1946 are contained in reports published by the National Weather Service.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 304.16 ft above National Geodetic Vertical Datum of 1929. May 12, 1939, to Dec. 11, 1955, at site 55 ft upstream from downstream side of bridge; Dec. 12, 1955, to Dec. 12, 1959, at downstream side of bridge; Oct. 1, 1967, to Sept. 12, 1968, nonrecording gage at downstream side of bridge; Sept. 13, 1968, to Oct. 23, 1974, water-stage recorder at downstream side of bridge; Oct. 24, 1974, to Oct. 16, 1975, at site on right bank 75 ft downstream from bridge. All gages at present datum.

REMARKS.--No estimated daily discharges. Records good. Since October 1960, flow partly regulated by Lake Tawakoni (station 08017400), capacity 936,200 acre-ft, located 53 mi upstream, and since September 1962 by Lake Holbrook, capacity, 7,990 acre-ft, located on Keys Creek, a tributary to the Sabine River 8.0 mi upstream. Flow may be slightl affected at times from a floodwater-retarding structure with a detention capacity of 3,570 acre-ft. This structure controls runoff from 9.70 mi² in the Mill Creek drainage basin.

AVERAGE DISCHARGE.--20 years (water years 1940-59) prior to regulation by Lake Tawakoni, 1,054 ft³/s (763,600 acre-ft/yr; 19 years (water years 1968-86) regulated, 874 ft³/s (633,200 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 76,000 ft³/s Apr. 1, 1945 (gage height, 24.00 ft); maximum gage-height, 24.37 ft June 8, 1943; no flow at times.
Maximum stage since at least 1890, that of June 8, 1943.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,700 ft³/s Feb. 6 at 1100 hours (gage height, 18.22 ft); minimum, 1.0 ft³/s Aug. 27-28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	398	1590	374	51	441	19	1410	1460	1390	6.1	1.7
2	9.7	227	1310	412	59	550	19	1460	1570	1170	5.3	3.6
3	9.8	128	853	381	281	401	20	1470	2010	932	5.1	26
4	8.2	69	607	268	2830	209	72	1400	2180	764	5.6	11
5	6.7	41	342	228	7520	171	558	1340	2450	734	5.6	12
6	6.1	28	171	310	9380	176	1430	1210	2950	731	6.0	46
7	6.1	19	114	379	7370	157	1490	997	3460	682	5.2	49
8	6.1	15	100	216	5710	153	1640	796	3700	610	4.1	21
9	6.0	11	80	193	4940	131	2100	707	3870	543	3.1	10
10	5.6	9.2	76	268	3960	100	3200	791	3980	483	2.4	7.3
11	5.0	16	1170	176	3440	86	4990	1400	4320	406	2.2	6.3
12	4.5	29	2450	111	3080	91	5460	1640	4970	319	2.0	6.0
13	4.1	71	4010	99	2800	112	4850	1700	4950	238	2.0	5.4
14	4.0	233	7560	92	2580	99	4240	1840	4700	177	2.2	4.3
15	4.7	174	5810	96	2370	120	3740	1900	4640	136	2.6	3.6
16	5.6	112	4250	97	2110	143	3530	1880	4530	110	3.0	3.7
17	7.1	122	3590	70	1800	122	3300	2040	5110	81	3.3	3.6
18	9.5	425	3210	67	1520	102	3070	2590	6050	55	3.0	3.4
19	56	529	2760	60	1280	98	2920	2780	5740	37	2.5	3.3
20	218	534	2420	55	1080	100	3060	2730	5110	25	2.1	3.4
21	557	381	2150	52	876	333	2760	2820	4310	18	2.0	3.3
22	754	207	1870	58	774	301	2510	2980	3790	16	1.7	3.2
23	700	124	1620	55	760	178	2460	3150	3550	14	1.5	3.5
24	325	92	1380	132	712	89	2480	3230	3280	16	1.4	3.8
25	91	235	1150	146	573	49	2460	3180	2990	11	1.4	4.1
26	38	716	965	91	464	35	2370	2980	2620	9.4	1.2	3.9
27	21	1090	864	62	396	29	2230	2640	2380	9.7	1.1	3.7
28	19	1450	750	248	358	26	2070	2390	2150	10	2.2	3.5
29	46	1430	600	300	---	24	1810	2140	1890	9.1	4.3	3.3
30	49	1510	496	147	---	23	1560	1850	1620	8.2	3.0	2.9
31	338	---	429	69	---	21	---	1600	---	7.1	2.0	---
TOTAL	3327.8	10425.2	54747	5312	69074	4670	72418	61041	106330	9751.5	95.2	265.8
MEAN	107	348	1766	171	2467	151	2414	1969	3544	315	3.07	8.86
MAX	754	1510	7560	412	9380	550	5460	3230	6050	1390	6.1	49
MIN	4.0	9.2	76	52	51	21	19	707	1460	7.1	1.1	1.7
AC-FT	6600	20680	108600	10540	137000	9260	143600	121100	210900	19340	189	527

```
CAL YR 1995   TOTAL   358790.9        MEAN     983      MAX     8370     MIN      2.0      AC-FT  711700
WTR YR 1986   TOTAL   397457.5        MEAN    1089      MAX     9380     MIN      1.1      AC-FT  788400
```

08018500 SABINE RIVER NEAR MINEOLA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1967 to current year. Biochemical analysis: July 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to current year.
WATER TEMPERATURES: October 1967 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 11,400 microsiemens June 3, 1971; minimum daily, 70 microsiemens Dec. 12, 1971.
WATER TEMPERATURES: Maximum daily, 36.0°C Aug. 21, 1984; minimum daily, 0.0°C Jan. 15, Feb. 1, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 7,460 microsiemens Sept. 13; minimum daily, 83 microsiemens Dec. 15.
WATER TEMPERATURES: Maximum daily, 34.0°C Sept. 23; minimum daily, 5.0°C Dec. 14, 15, Feb. 12, 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)
NOV											
25...	1633	230	217	6.92	17.0	7.0	74	--	55	30	15
JAN											
07...	0916	349	274	7.40	7.0	18.7	--	1.0	79	9	25
FEB											
25...	1330	567	280	7.80	11.5	12.8	120	1.4	85	8	26
APR											
22...	0928	2640	237	7.20	18.0	7.1	75	0.9	71	14	22
JUN											
17...	1708	5060	175	7.00	24.5	4.5	55	1.2	55	4	17
AUG											
04...	1710	5.9	1020	7.30	29.0	6.1	--	0.4	160	79	47

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
NOV											
25...	4.3	21	1	5.3	25	38	29	0.1	13	140	0.16
JAN											
07...	4.0	17	0.9	4.2	70	26	19	0.2	4.1	140	0.59
FEB											
25...	4.8	20	1	4.0	77	22	23	0.2	4.1	150	0.38
APR											
22...	3.9	20	1	4.5	57	29	21	0.2	3.0	140	0.29
JUN											
17...	3.0	12	0.7	4.2	51	16	13	0.2	4.6	100	0.18
AUG											
04...	9.4	150	5	5.8	77	74	250	0.3	6.5	590	--

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, DIS-SOLVED (UG/L AS PB)	NICKEL, DIS-SOLVED (UG/L AS NI)	SILVER, DIS-SOLVED (UG/L AS AG)
NOV										
25...	0.04	0.20	0.19	1.0	1.2	0.18	3	1	2	<1
JAN										
07...	0.01	0.50	0.04	0.56	0.6	0.06	--	--	--	--
FEB										
25...	0.02	0.40	0.03	0.77	0.8	0.07	--	--	--	--
APR										
22...	0.01	0.30	0.05	0.65	0.7	0.08	--	--	--	--
JUN										
17...	0.02	0.20	0.04	0.66	0.7	0.13	--	--	--	--
AUG										
04...	0.01	<0.10	0.03	0.67	0.7	0.06	--	--	--	--

08018500 SABINE RIVER NEAR MINEOLA, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1985	3327.8	230	124	1120	55	495	15	131	27
NOV.	1985	10425.2	242	131	3690	58	1630	15	436	29
DEC.	1985	54747	164	89	13100	39	5750	11	1560	20
JAN.	1986	5312	364	197	2830	87	1250	23	330	43
FEB.	1986	69074	161	87	16300	38	7150	10	1940	20
MAR.	1986	4670	361	195	2460	86	1090	23	288	43
APR.	1986	72418	221	119	23300	53	10300	14	2780	27
MAY	1986	61041	213	115	18900	51	8330	14	2260	26
JUNE	1986	106330	186	100	28800	44	12700	12	3440	23
JULY	1986	9751.5	228	123	3240	54	1430	15	385	27
AUG.	1986	95.2	1170	635	163	290	75	68	17	130
SEPT	1986	265.8	3250	1780	1280	940	672	110	83	230
TOTAL		397457.5	**	**	115000	**	50800	**	13700	**
WTD.AVG.		1089	199	107	**	47	**	13	**	24

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	456	452	220	307	368	294	577	244	226	212	1540	892
2	477	451	217	291	513	242	594	255	217	216	1460	935
3	699	302	202	285	433	281	602	272	208	223	1390	350
4	994	316	221	330	163	332	329	286	204	227	1210	835
5	1180	325	235	332	151	346	292	255	198	220	936	1270
6	1190	337	300	331	105	371	403	239	194	237	934	1690
7	1120	338	353	255	107	422	368	238	189	236	903	1510
8	1050	345	400	344	108	375	247	240	186	234	893	4320
9	982	351	409	346	109	380	243	236	185	221	898	4700
10	981	348	459	334	128	385	201	258	183	227	925	6050
11	942	223	197	308	168	439	192	290	182	215	922	7110
12	928	288	152	448	200	385	175	280	193	220	924	6520
13	901	361	112	450	204	429	197	210	191	226	931	7460
14	881	353	89	446	205	524	206	196	195	228	954	7160
15	869	387	83	456	210	487	222	180	174	229	1050	6700
16	845	690	123	444	215	415	226	201	179	230	1140	6650
17	799	784	154	425	219	428	224	168	181	261	1260	6870
18	516	279	179	482	243	453	221	195	186	262	1410	6620
19	208	224	193	538	262	561	222	226	155	264	1440	6520
20	247	198	200	575	264	529	211	206	142	279	1500	6680
21	163	211	207	600	260	408	256	188	161	285	1520	6540
22	95	239	210	802	258	324	251	183	180	297	1540	6260
23	119	274	219	787	236	303	212	185	190	308	1530	5810
24	250	255	239	726	260	335	200	189	195	332	1550	5210
25	296	217	249	577	282	339	205	193	201	345	1540	5250
26	328	294	246	379	285	368	209	199	204	361	1530	5330
27	346	218	245	436	288	416	211	206	205	382	1520	5640
28	371	206	266	310	315	457	213	205	205	442	1500	5260
29	366	179	261	276	---	511	215	208	207	515	982	5270
30	378	130	271	320	---	524	221	212	209	1170	705	5150
31	550	---	288	366	---	532	---	214	---	1750	793	---
MEAN	630	319	232	429	234	406	272	221	191	350	1200	4890

08018500 SABINE RIVER NEAR MINEOLA, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	16.0	9.0	8.0	10.0	10.0	18.0	19.0	---	---	---	24.0
2	15.0	15.0	15.0	9.0	11.0	10.0	---	19.0	---	26.0	---	25.0
3	15.0	13.0	9.0	9.0	9.0	12.0	19.0	18.0	---	---	27.0	24.0
4	17.0	13.0	9.0	9.0	14.0	10.0	19.0	18.0	---	25.0	26.0	25.0
5	16.0	14.0	9.0	---	14.0	10.0	17.0	19.0	---	26.0	27.0	28.0
6	15.0	14.0	9.0	---	14.0	10.0	19.0	19.0	---	25.0	27.0	22.0
7	15.0	14.0	9.0	8.0	12.0	12.0	20.0	20.0	---	25.0	26.0	22.0
8	18.0	12.0	13.0	8.0	10.0	14.0	20.0	20.0	---	27.0	26.0	22.0
9	19.0	15.0	13.0	8.0	10.0	---	19.0	20.0	---	27.0	27.0	22.0
10	---	18.0	13.0	8.0	7.0	16.0	17.0	22.0	---	26.0	26.0	23.0
11	20.0	15.0	11.0	9.0	6.0	15.0	17.0	20.0	24.0	---	26.0	24.0
12	21.0	17.0	9.0	---	5.0	15.0	17.0	20.0	24.0	27.0	25.0	22.0
13	22.0	18.0	8.0	7.0	5.0	15.0	18.0	21.0	24.0	27.0	26.0	22.0
14	22.0	17.0	5.0	---	6.0	14.0	18.0	21.0	24.0	---	24.0	22.0
15	21.0	17.0	5.0	8.0	6.0	15.0	17.0	21.0	24.0	27.0	26.0	25.0
16	21.0	17.0	7.0	9.0	9.0	15.0	16.0	23.0	25.0	27.0	26.0	23.0
17	21.0	16.0	6.0	10.0	11.0	15.0	17.0	20.0	23.0	27.0	26.0	23.0
18	22.0	17.0	7.0	11.0	11.0	16.0	17.0	---	23.0	27.0	30.0	24.0
19	21.0	16.0	7.0	9.0	12.0	14.0	18.0	20.0	24.0	27.0	26.0	25.0
20	20.0	---	8.0	11.0	14.0	14.0	17.0	---	24.0	26.0	26.0	23.0
21	22.0	15.0	8.0	9.0	10.0	12.0	17.0	19.0	25.0	26.0	27.0	24.0
22	22.0	15.0	8.0	11.0	10.0	12.0	16.0	21.0	25.0	27.0	27.0	32.0
23	21.0	15.0	8.0	10.0	10.0	12.0	17.0	21.0	26.0	25.0	27.0	34.0
24	22.0	17.0	9.0	10.0	10.0	13.0	19.0	22.0	26.0	27.0	25.0	25.0
25	22.0	19.0	7.0	10.0	10.0	13.0	18.0	21.0	26.0	---	28.0	24.0
26	20.0	20.0	7.0	9.0	12.0	16.0	19.0	21.0	25.0	27.0	29.0	25.0
27	20.0	17.0	8.0	9.0	12.0	16.0	18.0	22.0	26.0	28.0	26.0	25.0
28	21.0	15.0	7.0	9.0	12.0	16.0	18.0	20.0	26.0	28.0	25.0	25.0
29	18.0	13.0	6.0	10.0	---	18.0	---	21.0	26.0	28.0	21.0	25.0
30	17.0	13.0	7.0	9.0	---	17.0	19.0	21.0	26.0	28.0	20.0	25.0
31	18.0	---	8.0	9.0	---	18.0	---	22.0	---	29.0	21.0	---
MEAN	19.5	15.5	8.5	9.0	10.0	14.0	18.0	20.5	25.0	26.5	26.0	24.5

08018730 BURKE CREEK NEAR YANTIS, TX

LOCATION.--Lat 32°59'26", long 95°37'18", Hopkins County, Hydrologic Unit 12010003, at downstream side of highway embankment, 7 ft to left of left end of main bridge on Farm Road 1567, 100 ft upstream from Cane Branch, 1.2 mi upstream from Brushy Branch, and 5.0 mi northwest of Yantis.

DRAINAGE AREA.--33.1 mi².

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 400.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1-7 and Mar. 25 to Apr. 15. Records fair except those for estimated daily discharges, Mar. 25 to Apr. 15, which are poor. There are no known diversions or return effluents in the basin above gage. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years, 20.5 ft³/s (8.41 in/yr), 14,850 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,170 ft³/s Dec. 18, 1984 (gage height, 12.21 ft); no flow most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1943, 17.5 ft June 6, 1943, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base dischage of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 11	0800	*2,570	*11.22	Feb. 5	2230	1,770	10.63
Feb. 4	0330	1,250	10.12	Apr. 20	0200	1,900	10.74

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	2.1	9.9	3.7	4.2	4.4	5.6	65	9.7	7.2	.00	.00
2	.00	1.7	6.0	3.5	4.4	4.8	5.4	146	64	6.3	.00	.00
3	.00	1.5	4.8	3.5	168	5.3	5.4	15	326	13	.00	.00
4	.00	1.4	4.5	3.5	666	5.7	5.2	12	42	7.7	.00	.00
5	.00	1.4	4.3	3.5	372	5.6	800	10	190	5.1	.00	.00
6	.00	1.3	4.1	3.4	752	6.5	90	10	68	3.8	.00	.23
7	.00	1.2	4.1	3.5	53	6.4	15	9.4	23	3.2	.00	1.8
8	.00	1.1	4.3	3.6	19	6.4	8.0	8.7	17	2.9	.00	1.1
9	.00	1.1	4.6	3.5	37	6.9	7.0	9.0	14	2.5	.00	.75
10	.00	1.0	21	3.5	54	8.6	6.6	14	12	2.2	.00	.44
11	.00	4.5	1400	3.5	19	14	6.2	17	68	2.2	.00	.26
12	.00	5.7	155	3.6	10	26	8.0	10	40	1.9	.00	.21
13	.00	3.7	17	3.6	8.2	12	7.4	8.9	16	1.6	.00	.47
14	.00	2.7	6.6	3.6	8.3	8.5	7.0	7.5	11	1.4	.00	.41
15	.00	2.9	5.3	3.6	7.3	8.2	6.8	6.5	8.3	1.2	.00	.21
16	.00	6.8	4.7	3.8	7.4	8.5	6.6	5.5	9.1	1.2	.00	.08
17	.00	13	4.1	3.8	8.2	8.3	7.0	281	20	1.0	.00	.04
18	.00	8.1	3.9	4.2	6.4	9.6	12	623	22	.88	.00	.00
19	1.2	4.8	3.5	4.6	5.6	13	95	67	49	.90	.00	.00
20	2.4	4.9	3.3	4.3	5.3	8.4	836	14	20	.80	.00	.00
21	1.1	4.1	3.2	4.4	4.9	6.5	43	10	11	.71	.00	.00
22	.88	3.3	3.3	4.1	4.6	6.3	15	9.2	8.0	.60	.00	.00
23	.76	3.3	3.7	3.7	4.9	7.0	12	8.1	6.8	.57	.00	.00
24	.61	3.6	3.5	3.7	5.1	8.4	12	11	6.2	.66	.00	.00
25	.57	4.6	3.1	4.0	5.0	6.4	11	12	6.5	.58	.00	.00
26	.55	4.7	2.8	4.1	5.4	6.2	11	11	6.9	.56	.00	.00
27	.52	42	3.1	3.8	5.7	6.2	15	10	7.3	.35	.00	.00
28	.56	15	3.3	3.7	4.9	6.1	72	8.0	6.6	.19	.00	.00
29	2.3	5.7	3.3	3.8	---	6.1	14	7.1	22	.02	.00	.00
30	2.4	4.8	3.3	3.7	---	5.7	11	7.1	12	.01	.00	.00
31	3.0	---	3.7	3.8	---	5.6	---	7.1	---	.01	.00	---
TOTAL	16.85	162.0	1707.3	116.6	2255.8	247.6	2156.2	1440.1	1122.4	71.24	.00	6.00
MEAN	.54	5.40	55.1	3.76	80.6	7.99	71.9	46.5	37.4	2.30	.00	.20
MAX	3.0	42	1400	4.6	752	26	836	623	326	13	.00	1.8
MIN	.00	1.0	2.8	3.4	4.2	4.4	5.2	5.5	6.2	.01	.00	.00
CFSM	.02	.16	1.66	.11	2.44	.24	2.17	1.40	1.13	.07	.00	.01
IN.	.02	.18	1.92	.13	2.54	.28	2.42	1.62	1.26	.08	.00	.01
AC-FT	33	321	3390	231	4470	491	4280	2860	2230	141	.00	12

CAL YR 1985 TOTAL 8018.71 MEAN 22.0 MAX 1400 MIN .00 CFSM .66 IN. 9.01 AC-FT 15910
WTR YR 1986 TOTAL 9302.09 MEAN 25.5 MAX 1400 MIN .00 CFSM .77 IN. 10.45 AC-FT 18450

08018800 LAKE FORK RESERVOIR NEAR QUITMAN, TX

LOCATION.--Lat 32°48'48", long 95°31'40", Wood County, Hydrologic Unit 12010003, in room at left end of gated concrete spillway structure of Lake Fork Dam on Lake Fork Creek, 2,000 ft upstream from bridge on State Highway 182, 2.3 mi upstream from Alum Branch, and 4.4 mi west-northwest of the county courthouse in Quitman.

DRAINAGE AREA.--490 mi².

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a rolled earthfill dam 12,660 ft long, including a 260-foot gated concrete spillway. The outlet works consist of two 5- by 8-foot low flow sluice gates, five 40- by 20-foot taintor gates, and two 5- by 6-foot sluice gates that open into a wet-well where there are two 36-inch and one 10-inch valve-controlled and metered-outlet pipes. Deliberate impoundment began June 29, 1979, and closure of the dam was completed in January 1980. The lake was built for water conservation and is owned by the Sabine River Authority. No known diversions were made from the lake this year. Flow is affected at times by discharge from the flood-detention pools of 21 floodwater-retarding structures with a combined detention capacity of 20,270 acre-ft. These structures control runoff 60 mi² above the lake. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.................................	419.5	1,270,000
Top of tainter gates.......................	405.0	732,900
Crest of gated spillway....................	385.0	291,900
Invert of upper sluice gate................	383.0	260,400
Invert of lower sluice gate................	360.5	43,120
Invert of sluice gate in two center pieces.	360.0	40,620

COOPERATION.--Area and capacity tables were prepared and provided by URS/ Forest and Cotton, Inc., Consulting Engineers for the Sabine River Authority. Observed elevations for the period Oct. 31, 1979, to Jan. 31, 1980, were provided by the Sabine River Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 703,900 acre-ft Feb. 6, 1986 (elevation, 400.00 ft); minimum observed 46,140 acre-ft Dec. 11-14, 1979 (elevation, 361.10 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 703,900 acre-ft Feb. 6 at 0700 hours (elevation 404.00 ft); minimum, 605,300 acre-ft Oct. 13 (elevation, 400.35 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

400.0	596,300	403.0	675,800
401.0	622,100	404.0	703,900
402.0	648,500		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	609200	614900	634800	665500	661600	648500	644000	670400	665200	659700	645100	631300
2	608700	614300	633700	665700	661400	648800	643800	669800	669000	660800	644800	631600
3	608200	613800	632900	665500	688500	649400	643800	667900	672800	660800	645100	631300
4	608200	613600	633700	666300	696100	649600	646400	665700	673900	660500	644300	631900
5	607400	613100	632900	664900	701700	649900	677200	663500	675000	660000	643800	633700
6	606600	612500	632700	664600	695200	649600	685400	662200	675300	659700	643000	634500
7	606100	612800	632700	664900	687600	650200	684500	661900	680000	659500	642500	634800
8	605900	612000	632700	664600	685700	649900	682600	661900	679800	658900	642200	634000
9	605900	611800	632100	664100	684500	651300	678600	662200	680000	658600	641400	633500
10	606100	613600	632700	663800	684000	649900	675800	665500	680000	658100	641100	633200
11	605600	614100	659700	663500	680900	649900	673400	666000	684800	657300	640900	634000
12	605600	614100	680600	663800	677800	649900	674500	666000	682800	656700	640600	633200
13	605300	614300	681200	663500	674200	648300	672000	665700	679800	656200	639800	632700
14	606600	614900	678600	663300	671700	647200	670100	664900	675800	655600	639300	632100
15	606100	615900	676900	663300	668200	649900	667100	664900	675800	653700	638700	631900
16	605900	615900	674700	663500	666300	650200	664900	664600	683100	653200	638200	632400
17	606400	618200	672800	663500	663500	651300	663800	674700	684300	652900	638000	632100
18	611300	618500	670400	663800	661900	648300	663500	682300	682800	652400	637400	632100
19	614300	620000	667400	663500	660800	647200	669300	683100	680600	651500	636900	632100
20	614600	618700	666300	663300	660500	646400	678100	681400	677800	651300	636100	631900
21	614100	618700	666300	664100	659200	645400	680000	680000	675000	651000	635600	631600
22	613800	618200	667100	663300	657300	645100	679500	678300	671700	650500	634500	631300
23	613600	618200	667400	662700	656500	645100	678300	676100	669000	649600	634200	631100
24	613800	619500	667600	663000	655100	644800	676400	674500	667400	649400	634200	630500
25	613600	620500	666000	663500	654000	644600	674500	672500	665200	648500	633700	630300
26	613600	621300	665700	663500	653500	644800	672300	670400	662700	648500	633200	629700
27	613300	629500	666000	661900	653500	644600	672800	668200	661400	648000	633200	629500
28	615400	631300	666000	661900	650700	644600	671500	665700	661100	647200	633200	629700
29	615400	632100	666000	661900	---	644300	669800	663500	660800	646700	632100	629200
30	616900	633500	666000	661600	---	644000	668700	662200	660300	646400	631600	628900
31	615600	---	666300	661600	---	644000	---	663800	---	645600	630800	---
MAX	616900	633500	681200	666300	701700	651300	685400	683100	684800	660800	645100	634800
MIN	605300	611800	632100	661600	650700	644000	643800	661900	660300	645600	630800	628900
(†)	400.75	401.43	402.65	402.48	402.08	401.83	402.74	402.56	402.43	401.89	401.33	401.26
(‡)	+5400	+17900	+32800	-4700	-10900	-6700	+24700	-4900	-3500	-14700	-14800	-1900

CAL YR 1985 MAX 681200 MIN 445500 (‡) +222900
WTR YR 1986 MAX 701700 MIN 605300 (‡) + 18700

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

08019000 LAKE FORK CREEK NEAR QUITMAN, TX

LOCATION.--Lat 32°45'47", long 95°27'46", Wood County, Hydrologic Unit 12010003, at downstream side of highway embankment near left end of bridge on State Highway 37, 0.3 mi downstream from Dry Creek, 2.4 mi south of Quitman, and 23.4 mi upstream from mouth.

DRAINAGE AREA.--585 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1924 to April 1926, Februay 1939 to current year. Discharge from some high-water periods in 1925-26 published in WSP 1342. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1961, published as Lake Fork Sabine River near Quitman.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 317.42 ft above National Geodetic Vertical Datum of 1929. From June 27, 1924, to Apr. 30, 1926, a nonrecording gage was located at site 1,000 ft downstream at same datum. Prior to Sept. 5, 1978, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good except those for Oct. 1 to Nov. 7, which are fair. Since May 1962, flow from 31.0 mi² is controlled by Lake Quitman (capacity 7,440 acre-ft) on Dry Creek, a tributary above this station and below Lake Fork Reservoir. Construction of Lake Fork Dam and Reservoir (capcity, 675,800 acre-ft), located about 5 mi upstream from station, began in 1975. Deliberate impoundment began June 29, 1979, and the dam was completed in January 1980. Lake Fork Reservoir controls runoff from 490 mi². The city of Quitman discharged a small amount of sewage effluent into a tributary above this station.

AVERAGE DISCHARGE.--41 years (water years 1925, 1940-79), prior to regulation by Lake Fork Reservoir, 432 ft³/s (313,000 acre-ft/yr); 7 years (water years 1980-86) regulated, 227 ft³/s (164,500 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 75,600 ft³/s Mar. 30, 1945 (gage height, 29.85 ft, from floodmark), from rating curve extended above 49,000 ft³/s; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1895 reached a stage of about 25.9 ft, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,800 ft³/s Feb. 7 at 1200 hours (gage height, 18.88 ft); minimum, 7.3 ft³/s, Oct. 3-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	11	44	25	17	504	13	885	94	24	8.9	13
2	8.0	8.8	45	24	17	503	13	939	64	22	8.7	13
3	7.3	7.8	19	23	764	473	13	920	165	22	12	12
4	7.3	7.8	15	23	6120	140	13	889	591	20	22	12
5	7.4	7.8	12	24	7730	33	67	878	833	18	13	12
6	7.4	7.8	10	22	8830	25	288	871	908	16	9.8	13
7	8.0	7.5	8.8	21	11100	23	782	848	935	14	8.9	12
8	8.5	7.8	8.2	21	4590	23	1840	348	816	13	8.5	11
9	8.2	9.7	8.2	21	2270	22	2620	49	364	13	8.1	10
10	8.1	11	14	21	2080	22	2670	40	184	12	8.1	9.7
11	9.4	13	943	21	2020	22	2110	99	288	11	8.1	9.8
12	9.4	17	3930	26	1980	24	2070	55	1190	11	7.9	9.9
13	8.9	13	3700	27	1930	25	2050	34	1910	10	8.5	9.9
14	9.6	11	2460	28	1920	24	1890	27	1930	10	9.2	9.4
15	11	12	2220	27	1890	22	1830	23	1900	10	9.9	8.7
16	11	14	2100	28	1890	22	1800	20	2050	9.9	12	8.4
17	10	13	2030	30	1880	22	1190	64	4510	9.7	12	6.8
18	11	15	1990	33	1860	22	675	548	3010	9.6	12	8.7
19	22	14	1970	33	1390	24	556	740	2380	9.4	12	8.1
20	25	12	1910	32	717	24	381	767	2230	9.2	13	8.0
21	12	12	909	31	565	19	119	879	2110	8.9	14	8.4
22	9.4	11	179	30	534	18	72	924	2020	8.6	15	9.2
23	7.8	11	51	30	518	16	537	933	2010	8.5	16	9.5
24	8.1	12	38	27	510	16	770	934	1850	8.4	16	9.7
25	8.2	21	33	27	506	16	833	932	1390	8.4	16	10
26	8.2	32	30	21	506	16	848	932	1110	8.6	16	11
27	7.9	72	27	18	504	16	860	930	1000	8.6	15	11
28	8.9	121	26	14	503	16	889	924	444	8.7	15	11
29	11	30	25	11	---	15	889	920	71	8.5	14	11
30	12	14	25	9.8	---	15	876	900	32	8.7	14	11
31	16	---	25	11	---	14	---	410	---	8.9	13	---
TOTAL	316.3	557.0	24805.2	739.8	65141	2176	29564	18662	38389	368.6	376.6	309.2
MEAN	10.2	18.6	800	23.9	2326	70.2	985	602	1280	11.9	12.1	10.3
MAX	25	121	3930	33	11100	504	2670	939	4510	24	22	13
MIN	7.3	7.5	8.2	9.8	17	14	13	20	32	8.4	7.9	8.0
AC-FT	627	1100	49200	1470	129200	4320	58640	37020	76140	731	747	613

CAL YR 1985 TOTAL 58353.12 MEAN 160 MAX 3930 MIN .00 AC-FT 115700
WTR YR 1986 TOTAL 181404.7 MEAN 497 MAX 11100 MIN 7.3 AC-FT 359800

08019000 LAKE FORK CREEK NEAR QUITMAN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: December 1961 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1967 to current year.
WATER TEMPERATURES: December 1967 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,800 microsiemens Oct. 5, 1972; minimum daily, 37 microsiemens Dec. 11, 1971.
WATER TEMPERATURES: Maximum daily, 34.0°C Aug. 15, 1983; minimum daily, 0.0°C Dec. 23-27, 1983.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 645 microsiemens Jan. 27; minimum daily, 99 microsiemens June 16.
WATER TEMPERATURES: Maximum daily, 33.0°C July 26, 27, 28; minimum daily, 7.0°C Dec. 4, Feb. 11-14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT									
10...	1137	8.1	270	20.5	71	12	17	7.0	23
NOV									
22...	1155	11	452	--	92	35	23	8.4	46
JAN									
09...	1625	21	507	--	99	69	23	10	53
FEB									
27...	1649	504	217	--	63	19	16	5.7	16
APR									
17...	1857	1190	202	--	59	13	15	5.3	14
JUL									
30...	1238	8.7	280	--	73	14	18	6.8	23

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT								
10...	1	6.3	59	20	37	0.1	2.0	150
NOV								
22...	2	6.6	57	19	95	0.2	5.9	240
JAN								
09...	2	5.4	30	61	94	0.2	13	280
FEB								
27...	0.9	6.4	44	--		--	--	--
APR								
17...	0.8	6.2	46	17	19	0.1	1.1	110
JUL								
30...	1	6.7	59	19	36	0.2	3.7	150

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	316.3	312	173	148	47	40	37	32	71
NOV. 1985	557.0	440	243	366	72	109	51	77	95
DEC. 1985	24805.2	230	127	8520	33	2190	28	1860	53
JAN. 1986	739.8	502	277	553	85	171	58	116	110
FEB. 1986	65141	196	109	19200	27	4820	24	4190	46
MAR. 1986	2176	304	168	987	47	276	36	211	68
APR. 1986	29564	230	128	10200	33	2610	28	2220	53
MAY 1986	18662	246	136	6850	35	1780	30	1490	57
JUNE 1986	38389	177	98	10200	24	2530	22	2230	42
JULY 1986	368.6	350	194	193	54	54	41	41	78
AUG. 1986	376.6	283	156	159	42	42	34	34	65
SEPT 1986	309.2	285	158	132	42	35	34	29	65
TOTAL	181404.7	**	**	57400	**	14700	**	12500	**
WTD.AVG.	497	212	117	**	30	**	26	**	49

08019000 LAKE FORK CREEK NEAR QUITMAN, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	302	319	515	490	578	210	513	237	225	397	298	299
2	304	318	516	497	579	213	499	234	242	395	297	297
3	302	322	513	510	423	255	498	236	210	390	298	296
4	289	320	475	515	108	297	507	234	203	395	299	296
5	293	323	424	512	151	380	428	246	195	394	299	297
6	287	322	420	521	175	453	325	294	187	388	301	295
7	289	311	415	524	192	482	264	315	174	373	299	297
8	274	397	414	525	200	512	245	375	210	367	300	299
9	275	399	421	532	203	511	239	482	259	377	291	301
10	282	400	395	536	232	525	210	479	325	373	280	303
11	281	400	244	539	264	539	239	418	250	374	274	279
12	274	399	211	501	248	559	238	410	200	373	275	278
13	273	458	212	496	231	560	239	413	104	375	277	278
14	274	381	211	485	233	528	238	409	100	368	275	276
15	273	379	213	490	230	530	225	415	110	330	274	279
16	274	378	217	494	228	534	218	430	99	308	264	280
17	272	420	222	492	237	539	209	400	101	306	277	278
18	280	458	223	488	234	538	207	335	211	314	275	282
19	421	459	220	491	235	565	221	275	216	310	276	283
20	358	460	265	475	269	590	275	244	199	306	271	287
21	344	449	307	465	230	510	330	253	202	308	272	280
22	334	437	395	448	218	464	363	267	201	308	273	278
23	331	430	448	430	226	465	250	244	205	302	271	274
24	319	426	450	415	217	510	238	235	204	294	274	277
25	300	479	468	475	214	512	215	205	225	290	284	276
26	292	477	487	560	216	513	206	198	241	294	273	278
27	313	478	488	645	217	511	208	197	263	297	284	280
28	314	476	495	600	207	516	202	198	275	295	286	277
29	312	479	505	573	---	518	200	199	293	291	288	273
30	330	511	507	552	---	515	214	198	301	278	283	270
31	346	---	493	573	---	516	---	216	---	283	282	---
MEAN	304	409	380	511	250	480	282	300	208	337	283	285

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	17.0	9.0	---	13.0	13.0	16.0	22.0	---	30.0	31.0	27.0
2	21.0	18.0	---	---	12.0	14.0	16.0	22.0	23.0	30.0	31.0	28.0
3	22.0	17.0	---	---	13.0	14.0	15.0	22.0	24.0	30.0	31.0	27.0
4	23.0	18.0	7.0	---	14.0	14.0	14.0	23.0	25.0	29.0	31.0	27.0
5	22.0	18.0	8.0	---	14.0	13.0	15.0	22.0	24.0	30.0	32.0	27.0
6	21.0	17.0	9.0	---	14.0	14.0	17.0	22.0	29.0	30.0	32.0	28.0
7	22.0	18.0	10.0	---	13.0	15.0	17.0	21.0	25.0	31.0	31.0	27.0
8	22.0	17.0	10.0	---	11.0	15.0	18.0	22.0	25.0	30.0	31.0	25.0
9	24.0	17.0	11.0	---	9.0	16.0	18.0	23.0	25.0	31.0	31.0	28.0
10	23.0	18.0	12.0	---	8.0	16.0	19.0	23.0	25.0	30.0	30.0	28.0
11	23.0	18.0	9.0	---	7.0	15.0	19.0	23.0	25.0	30.0	31.0	28.0
12	24.0	17.0	8.0	---	7.0	14.0	18.0	22.0	20.0	31.0	31.0	28.0
13	23.0	17.0	8.0	---	7.0	15.0	18.0	22.0	26.0	30.0	30.0	29.0
14	22.0	18.0	9.0	---	7.0	15.0	18.0	21.0	27.0	31.0	29.0	29.0
15	23.0	15.0	9.0	14.0	8.0	15.0	---	22.0	25.0	31.0	30.0	29.0
16	22.0	17.0	10.0	14.0	8.0	15.0	19.0	21.0	26.0	32.0	31.0	29.0
17	23.0	17.0	10.0	11.0	9.0	15.0	19.0	21.0	20.0	31.0	31.0	29.0
18	22.0	17.0	9.0	13.0	11.0	15.0	19.0	21.0	27.0	31.0	---	28.0
19	22.0	17.0	9.0	14.0	11.0	14.0	20.0	22.0	27.0	32.0	29.0	28.0
20	25.0	---	8.0	15.0	12.0	13.0	20.0	22.0	28.0	32.0	30.0	29.0
21	23.0	---	9.0	14.0	11.0	14.0	20.0	24.0	27.0	32.0	30.0	28.0
22	24.0	16.0	10.0	13.0	12.0	14.0	21.0	23.0	28.0	32.0	30.0	---
23	25.0	17.0	10.0	13.0	12.0	15.0	21.0	23.0	28.0	31.0	29.0	30.0
24	25.0	17.0	9.0	13.0	11.0	15.0	22.0	24.0	27.0	32.0	30.0	30.0
25	23.0	17.0	8.0	13.0	12.0	---	21.0	23.0	28.0	32.0	26.0	30.0
26	22.0	17.0	8.0	10.0	12.0	14.0	22.0	24.0	28.0	33.0	29.0	29.0
27	21.0	17.0	9.0	9.0	12.0	15.0	21.0	24.0	29.0	33.0	28.0	---
28	20.0	17.0	10.0	10.0	13.0	18.0	22.0	24.0	28.0	33.0	29.0	---
29	19.0	---	10.0	11.0	---	15.0	21.0	23.0	29.0	32.0	28.0	29.0
30	18.0	10.0	11.0	11.0	---	15.0	21.0	24.0	29.0	31.0	28.0	---
31	17.0	---	12.0	12.0	---	15.0	---	24.0	---	31.0	27.0	---
MEAN	22.0	17.0	9.5	12.5	11.0	14.5	19.0	22.5	26.0	31.0	30.0	28.0

08019300 LAKE WINNSBORO NEAR WINNSBORO, TX

LOCATION.--Lat 32°53'13", long 95°20'41", Wood County, Hydrologic Unit 12010002, near left end of dam on Big Sandy Creek, 0.8 mi upstream from bridge on State Highway 37, 2.5 mi upstream from Indian Creek, and 5.8 mi southwest of Winnsboro.

DRAINAGE AREA.--27.1 mi².

PERIOD OF RECORD--June 1962 to September 1986 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Jan 19, 1963, nonrecording gage at same site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 2,500 ft long. Storage began June 11, 1962, and the dam was completed in August 1962. The dam was built by Wood County for flood control and recreation. The spillway is an uncontrolled 20-foot square drop inlet at crest elevation of 419.0 ft. The crest was raised in April 1966 from elevation 417 to 419 ft. The other spillway is a 300-foot-wide cut channel through natural ground near right end of dam. The capacity curve is based on 1960 Geological Survey tcpographic maps. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	437.0	-
Design flood..	433.0	22,500
Crest of spillway......................................	427.0	16,270
Crest of drop inlet (top of conservation pool)...........	419.0	8,110
Lowest gated outlet (invert)............................	392.2	0

COOPERATION.--Capacity curve was provided by Wisenbaker, Fix, and Assocaites, Consulting Engineers for Wood County.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 11,640 acre-ft Feb. 5, 1975 (elevation, 422.92 ft); minimum since first appreciable storage, 2,430 acre-ft Jan. 19, 20, 1965 (elevation, 409.79 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 10,300 acre-ft Feb. 4 at 0200 hours (elevation, 421.52 ft); minimum, 6,750 acre-ft Oct. 12-14 (elevation, 417.22 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

417.0	6,590	420.0	8,940
418.0	7,330	422.0	10,760
419.0	8,110		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6880	7000	7380	7990	8010	8070	8100	8250	8160	8090	7560	7100
2	6860	6990	7450	8030	8010	8080	8030	8270	8250	8100	7530	7080
3	6860	6970	7500	8050	10240	8080	8020	8250	8330	8100	7530	7070
4	6850	6970	7530	8080	9640	8060	8030	8240	8310	8090	7530	7090
5	6830	6950	7510	8060	9090	8070	8520	8190	8300	8070	7500	7120
6	6830	6960	7530	8140	8980	8070	8530	8210	8270	8050	7490	7120
7	6800	6940	7570	8140	8720	8060	8440	8210	8250	8040	7480	7120
8	6790	6920	7570	8150	8530	8060	8390	8180	8250	8020	7460	7120
9	6760	6920	7610	7950	8450	8060	8320	8190	8350	8010	7430	7110
10	6760	6940	7600	7990	8390	8080	8290	8240	8340	8000	7430	7100
11	6750	6970	7620	8010	8340	8090	8270	8270	8430	7970	7420	7100
12	6750	6990	7640	8030	8280	8110	8270	8270	8360	7940	7400	7080
13	6750	6990	7640	8020	8250	8120	8260	8250	8290	7930	7370	7060
14	6780	6990	7670	8020	8230	8120	8220	8210	8240	7920	7360	7060
15	6780	7020	7690	8040	8220	8120	8200	8210	8220	7890	7340	7040
16	6780	7020	7710	8050	8220	8120	8180	8200	8900	7870	7330	7040
17	6780	7050	7720	8060	8210	8130	8170	8190	8860	7860	7320	7040
18	6960	7060	7760	8060	8200	8130	8180	8100	8630	7820	7300	7030
19	6950	7110	7770	8080	8190	8110	8240	8140	8480	7820	7280	7010
20	6950	7060	7780	8090	8160	8090	8290	8190	8390	7780	7250	7000
21	6950	7030	7790	8090	8140	8080	8270	8140	8310	7760	7240	6990
22	6950	7060	7840	8070	8130	8070	8250	8110	8270	7750	7220	6980
23	6940	7090	7830	8050	8110	8070	8230	8190	8250	7750	7200	6970
24	6940	7120	7850	8050	8100	8070	8220	8150	8310	7730	7190	6950
25	6930	7160	7860	8050	8100	8060	8210	8150	8300	7710	7190	6930
26	6920	7180	7900	8040	8130	8060	8200	8110	8250	7680	7150	6930
27	6910	7200	7920	8010	8100	8050	8240	8110	8210	7670	7150	6920
28	6910	7240	7920	8010	8070	8050	8270	8180	8170	7650	7150	6890
29	6960	7270	7930	8010	---	8050	8260	8170	8150	7640	7120	6890
30	6960	7330	8000	8010	---	8040	8250	8150	8120	7600	7110	6880
31	7010	---	7980	8010	---	8040	---	8140	---	7570	7100	---
MAX	7010	7330	8000	8150	10240	8130	8530	800	8900	8100	7560	7120
MIN	6750	6920	7380	7950	8010	8040	8020	840	8120	7570	7100	6880
(†)	417.58	418.00	418.84	418.87	418.95	418.91	419.18	41904	419.01	418.32	417.70	417.40
(‡)	+120	+320	+650	+30	+60	-30	+210	-10	-20	-550	-470	-220

CAL YR 1985 MAX 10620 MIN 6750 (‡) -270
WTR YR 1986 MAX 10240 MIN 6750 (‡) -10

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

08019500 BIG SANDY CREEK NEAR BIG SANDY, TX

LOCATION.--Lat 32°36'14", long 95°05'29", Upshur County, Hydrologic Unit 12010002, on downstream side of highway embankment near left end of bridge on State Highway 155, 0.5 mi upstream from St. Louis Southwestern Railway Lines bridge, 1.6 mi northeast of Big Sandy, and 6.5 mi upstream from mouth.

DRAINAGE AREA.--231 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1939 to current year.

REVISED RECORDS.--WSP 1732: 1941(M), 1945-46, 1956, drainage area. WSP 1922: 1944(M), 1945-46.

GAGE.--Water-stage recorder. Datum of gage is 278.38 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 5, 1940, nonrecording gage, and Oct. 5, 1940, to Nov. 26, 1951, water-stage recorder at site 1.3 mi upstream at datum 3.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Since June 1962, streamflow has been affected somewhat by the flood-detention pool at Lake Winnsboro (station 08019300).

AVERAGE DISCHARGE.--47 years, 178 ft³/s (129,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,000 ft³/s Mar. 31, 1945 (gage height, 24.1 ft, from floodmark, present site and datum), from rating curve extended above 13,000 ft³/s; minimum 3.5 ft³/s July 24, Aug. 7-8, 1984.
Maximum stage since at least 1875, that of Mar. 31, 1945, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Feb. 6	1500	*2,780	*15.00	No other peak greater than base discharge.			

Minimum daily discharge, 7.0 ft³/s Oct. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	94	342	97	71	81	60	146	93	92	11	11
2	23	76	303	94	68	79	61	187	237	72	12	13
3	18	62	196	91	189	77	62	172	363	72	16	17
4	14	50	156	90	501	81	75	163	232	79	14	20
5	13	43	150	86	687	87	155	171	195	70	18	30
6	12	40	146	82	2490	78	183	168	190	56	19	69
7	10	36	127	80	1960	73	198	140	188	49	15	85
8	9.4	32	108	76	1250	71	215	111	168	42	13	64
9	9.7	29	94	75	954	71	215	106	143	34	11	39
10	9.9	28	90	76	798	70	211	106	131	28	9.4	29
11	9.8	81	371	73	656	66	187	129	165	23	9.8	25
12	10	152	619	70	522	77	200	132	201	19	11	24
13	9.3	137	609	68	407	80	206	142	225	16	11	23
14	7.0	120	826	65	330	83	189	146	266	14	10	22
15	13	99	1220	61	268	84	168	143	332	12	12	21
16	15	84	965	60	218	87	143	118	317	9.4	14	18
17	14	82	700	67	182	88	122	164	221	8.8	13	14
18	21	81	524	73	162	100	108	291	187	8.0	13	16
19	124	79	394	74	147	123	107	259	217	7.5	12	28
20	142	81	294	71	136	120	154	290	599	9.2	12	39
21	172	79	226	73	127	110	146	296	1020	8.3	11	38
22	118	75	185	73	124	96	204	332	833	11	10	25
23	70	68	160	69	117	90	283	296	583	10	10	19
24	59	94	143	68	110	85	273	217	344	9.4	10	15
25	51	143	130	84	102	78	194	153	228	8.8	10	13
26	39	151	119	99	96	77	136	139	170	10	11	21
27	30	185	113	117	91	71	113	127	135	9.3	10	20
28	31	237	110	110	85	71	119	99	124	9.1	10	16
29	66	244	106	88	---	74	108	85	127	11	15	15
30	89	231	101	77	---	71	116	68	120	11	15	13
31	112	---	100	74	---	63	---	58	---	11	12	---
TOTAL	1348.1	2993	9727	2461	12848	2562	4711	5154	8354	829.8	380.2	802
MEAN	43.5	99.8	314	79.4	459	82.6	157	166	278	26.8	12.3	26.7
MAX	172	244	1220	117	2490	123	283	332	1020	92	19	85
MIN	7.0	28	90	60	68	63	60	58	93	7.5	9.4	11
AC-FT	2670	5940	19290	4880	25480	5080	9340	10220	16570	1650	754	1590

CAL YR 1985	TOTAL	73508.6	MEAN	201	MAX	3690	MIN	7.0	AC-FT	145800
WTR YR 1986	TOTAL	52170.1	MEAN	143	MAX	2490	MIN	7.0	AC-FT	103500

08019500 BIG SANDY CREEK NEAR BIG SANDY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: March 1961 to September 1986. Chemical and biochemical analyses: October 1984 to September 1986.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1985 to September 1986.
WATER TEMPERATURE: April 1985 to September 1986.
SUSPENDED-SEDIMENT DISCHARGE: October 1984 to September 1986.

INSTRUMENTATION.--Specific conductance and water temperatures were recorded continuously at this station from November 1984 to September 1986.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum and minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 438 microsiemens Nov. 10, 1985; minimum, 55 microsiemens Sept. 6, 1986.
WATER TEMPERATURE: Maximum, 28.5°C Aug. 5, 6, 1985; minimum, 3.5°C Dec. 16, 1985.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 74 mg/L Feb. 23, 1985; minimum daily mean, 1 mg/L on several days during winter months.
SEDIMENT LOADS: Maximum daily, 239 tons Feb. 26, 1985; minimum daily, 0.02 tons Sept. 4, 5, 1985.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 422 microsiemens Nov. 5; minimum, 55 microsiemens Sept. 6.
WATER TEMPERATURE: Minimum, 3.5°C Dec. 16.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 55 mg/L June 7; minimum daily mean, 2 mg/L on several days during November, December, and January.
SEDIMENT LOADS: Maximum daily, 170 tons Feb. 6; minimum daily, 0.13 tons Oct. 14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
OCT												
10...	1400	9.6	83	6.20	18.5	--	--	6.9	74	--	--	--
JAN												
07...	1625	77	165	6.90	6.5	40	4.6	12.3	--	0.6	32	25
MAR												
06...	1351	77	191	6.43	13.0	50	4.6	9.7	93	0.6	38	30
APR												
22...	1305	211	161	6.60	17.0	120	15	7.1	74	0.9	30	19
JUN												
18...	1608	7.5	150	6.63	24.0	100	16	5.6	67	1.2	33	17
AUG												
07...	1415	17	115	6.80	26.0	50	5.6	6.5	81	1.1	25	12

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
OCT												
10...	--	--	--	--	--	10	--	--	--	--	--	--
JAN												
07...	7.3	3.4	15	1	2.8	7	17	29	<0.1	16	95	9
MAR												
06...	8.6	4.0	18	1	3.2	8	28	31	0.2	12	110	10
APR												
22...	6.9	3.1	18	1	3.3	11	16	31	<0.1	12	97	25
JUN												
18...	7.7	3.4	15	1	3.5	16	19	23	0.1	14	95	14
AUG												
07...	6.0	2.4	11	1	2.9	13	10	19	<0.1	12	71	9

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
OCT												
10...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
07...	1	0.19	0.01	0.20	0.03	0.37	0.4	0.03	0.02	0.06	5.4	4.8
MAR												
06...	9	--	<0.01	0.10	0.02	0.68	0.7	0.04	0.02	0.06	6.1	6.1
APR												
22...	9	--	<0.01	0.10	0.06	0.94	1.0	0.12	<0.01	--	14	10
JUN												
18...	12	--	<0.01	0.20	0.02	0.98	1.0	0.13	<0.01	--	13	14
AUG												
07...	6	0.19	<0.01	0.20	0.02	0.38	0.4	0.05	0.02	0.06	5.7	4.5

08019500 BIG SANDY CREEK NEAR BIG SANDY, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	PHENOLS TOTAL (UG/L)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)
OCT												
10...	--	--	1	--	<1	--	--	<10	--	23	--	<0.01
JAN												
07...	5	<1	--	<10	--	1100	<100	--	170	--	0.2	--
MAR												
06...	3	<1	<1	<10	<1	1500	<100	<10	170	12	0.1	<0.1
APR												
22...	4	1	--	<10	--	2200	<100	--	360	--	<0.1	--
JUN												
18...	2	1	2	<10	<1	3700	<100	<10	440	130	3.3	<0.1
AUG												
07...	<1	<1	--	<10	--	1700	<100	--	200	--	0.2	--

DATE	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT												
10...	<0.1	<1	<0.1	<1.0	<0.01	<0.1	<0.1	<1.0	<0.01	<0.1	<0.01	<0.1
JAN												
07...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
06...	<0.1	--	<0.1	--	<0.01	--	<0.1	--	<0.01	--	<0.01	--
APR												
22...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
18...	<0.1	<1	<0.1	<1.0	<0.01	<0.1	<0.1	<1.0	<0.01	<0.1	<0.01	<0.1
AUG												
07...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL (UG/L)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)
OCT											
10...	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01
JAN											
07...	--	--	--	--	--	--	--	--	--	--	--
MAR											
06...	<0.01	--	<0.01	--	<0.01	--	<0.01	--	<0.01	--	<0.01
APR											
22...	--	--	--	--	--	--	--	--	--	--	--
JUN											
18...	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01
AUG											
07...	--	--	--	--	--	--	--	--	--	--	--

DATE	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)
OCT											
10...	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1
JAN											
07...	--	--	--	--	--	--	--	--	--	--	--
MAR											
06...	--	<0.01	--	<0.01	--	<0.01	--	<0.01	--	<0.01	--
APR											
22...	--	--	--	--	--	--	--	--	--	--	--
JUN											
18...	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1
AUG											
07...	--	--	--	--	--	--	--	--	--	--	--

08019500 BIG SANDY CREEK NEAR BIG SANDY, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI-THION, TOTAL (UG/L)	METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL (UG/L)	MIREX, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PARA-THION, TOTAL (UG/L)	PARA-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PER-THANE TOTAL (UG/L)	PER-THANE IN BOT-TOM MA-TERIAL (UG/KG)	SILVEX, TOTAL (UG/L)
OCT											
10...	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.1	<1.00	<0.01
JAN											
07...	--	--	--	--	--	--	--	--	--	--	--
MAR											
06...	<0.01	--	<0.01	--	<0.01	--	<0.01	--	<0.1	--	<0.01
APR											
22...	--	--	--	--	--	--	--	--	--	--	--
JUN											
18...	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.1	<1.00	<0.01
AUG											
07...	--	--	--	--	--	--	--	--	--	--	--

DATE	SILVEX, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TOX-APHENE, TOTAL (UG/L)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	TRI-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4-D, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	2, 4-DP TOTAL (UG/L)	2,4-DP, IN BOTTOM MAT. (UG/KG)	2,4,5-T TOTAL (UG/L)	2,4,5-T TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT											
10...	<0.1	<1	<10	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1
JAN											
07...	--	--	--	--	--	--	--	--	--	--	--
MAR											
06...	--	<1	--	<0.01	--	<0.01	--	<0.01	--	<0.01	--
APR											
22...	--	--	--	--	--	--	--	--	--	--	--
JUN											
18...	<0.1	<1	<10	<0.01	<0.1	0.04	<0.1	<0.01	<0.1	<0.01	<0.1
AUG											
07...	--	--	--	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	1348.1	219	124	451	38	138	32	116	39
NOV. 1985	2993	231	129	1040	41	329	35	286	41
DEC. 1985	9727	115	71	1870	19	495	13	336	23
JAN. 1986	2461	174	103	684	29	195	22	149	33
FEB. 1986	12848	113	70	2420	19	643	13	437	23
MAR. 1986	2562	189	110	762	32	224	26	177	35
APR. 1986	4711	165	98	1240	28	356	21	273	31
MAY 1986	5154	145	87	1220	24	336	17	243	28
JUNE 1986	8354	125	76	1720	20	462	14	319	25
JULY 1986	829.8	157	94	210	26	59	19	43	30
AUG. 1986	380.2	102	63	65	16	17	11	11	20
SEPT 1986	802	101	63	136	16	36	11	23	20
TOTAL	52170.1	**	**	11800	**	3290	**	2410	**
WTD.AVG.	143	140	84	**	23	**	17	**	27

08019500 BIG SANDY CREEK NEAR BIG SANDY, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	115	293	288	291	192	111	140	---	---	140
2	---	---	122	338	293	311	149	141	146	---	---	142
3	---	---	131	375	339	354	154	149	151	---	---	146
4	---	---	135	419	377	399	154	153	153	---	---	149
5	---	---	138	422	403	414	170	155	161	---	---	153
6	---	---	141	---	---	418	174	170	173	---	---	156
7	---	---	146	---	---	424	173	165	169	---	---	160
8	---	---	152	---	---	430	165	156	159	166	161	162
9	---	---	158	---	---	435	156	151	153	166	161	163
10	---	---	161	---	---	438	152	138	150	172	165	169
11	165	159	163	---	---	365	136	76	89	183	172	178
12	167	114	142	---	---	258	95	81	88	189	183	186
13	146	96	122	---	---	242	112	96	108	192	189	190
14	212	138	168	---	---	220	112	106	109	191	182	187
15	283	215	248	---	---	198	111	101	108	188	182	185
16	255	139	181	---	---	194	108	105	106	188	187	188
17	142	133	138	---	---	190	111	108	109	188	186	187
18	152	142	146	---	---	187	---	---	101	187	183	186
19	234	159	194	---	---	185	---	---	103	183	179	180
20	210	164	185	---	---	180	---	---	105	192	180	186
21	244	207	219	---	---	182	---	---	109	193	190	192
22	308	247	278	194	177	188	---	---	114	194	191	193
23	361	311	339	188	175	181	---	---	116	193	191	192
24	361	247	274	184	168	178	---	---	120	193	192	192
25	263	226	240	200	165	177	---	---	124	192	170	185
26	237	186	203	218	201	209	---	---	125	176	168	172
27	207	183	196	224	198	214	---	---	127	190	165	176
28	214	205	209	197	186	193	---	---	130	196	190	194
29	209	199	203	185	172	176	---	---	129	192	182	188
30	263	208	236	192	179	187	---	---	133	182	179	180
31	290	265	277	---	---	---	---	---	137	178	173	175
MONTH	361	96	186	422	165	267	192	76	127	196	161	175

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	176	174	175	161	159	160	386	358	372	173	161	168
2	181	176	179	165	161	163	380	359	369	172	156	161
3	182	89	159	167	164	166	385	350	367	176	172	175
4	103	83	93	173	167	169	351	252	296	192	177	187
5	132	102	115	179	173	176	251	117	193	190	171	180
6	121	91	101	180	175	179	169	121	145	175	170	172
7	90	85	87	169	163	165	222	172	199	186	176	180
8	95	87	91	165	162	163	220	134	180	193	186	190
9	104	96	100	163	161	162	159	130	140	190	180	185
10	115	105	110	162	160	161	169	161	167	186	163	178
11	119	115	118	162	160	161	167	153	162	161	149	156
12	125	119	121	161	151	156	154	114	132	---	---	155
13	134	125	130	156	152	155	128	114	122	---	---	150
14	146	135	140	154	152	153	132	114	120	---	---	147
15	153	146	150	162	154	157	152	133	138	---	---	151
16	157	153	155	164	161	163	158	133	146	---	---	164
17	159	157	158	165	161	163	170	156	164	---	---	142
18	161	159	160	165	157	161	---	---	178	---	---	123
19	166	162	164	177	151	167	---	---	185	---	---	128
20	167	165	166	190	173	180	---	---	157	---	---	120
21	169	167	168	218	191	206	---	---	161	---	---	119
22	169	167	168	222	216	219	---	---	142	---	---	107
23	170	168	169	220	218	220	136	131	133	---	---	110
24	171	169	170	219	210	214	155	133	142	---	---	119
25	171	167	169	212	209	211	174	156	166	---	---	128
26	168	165	167	215	210	213	177	174	176	---	---	136
27	165	161	163	225	213	216	177	166	172	---	---	149
28	162	159	160	245	224	233	166	152	160	---	---	156
29	---	---	---	284	246	263	161	146	153	---	---	162
30	---	---	---	325	286	305	170	145	156	---	---	167
31	---	---	---	356	326	343	---	---	---	---	---	168
MONTH	182	83	143	356	151	191	386	114	183	193	149	153

08019500 BIG SANDY CREEK NEAR BIG SANDY, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	165	176	158	163	---	---	133	81	77	80
2	---	---	132	180	156	163	---	---	131	81	71	75
3	---	---	117	173	153	160	---	---	122	76	71	74
4	---	---	122	177	142	157	---	---	127	95	70	74
5	---	---	130	167	140	150	---	---	119	72	66	71
6	---	---	133	179	150	164	---	---	116	88	55	79
7	---	---	134	190	157	168	---	---	121	111	67	94
8	---	---	140	189	158	173	114	108	111	113	105	108
9	---	---	146	---	---	175	120	114	116	104	96	100
10	---	---	151	---	---	171	123	120	122	98	96	97
11	---	---	142	---	---	166	123	122	122	97	92	95
12	---	---	131	---	---	164	122	119	120	92	88	89
13	---	---	119	---	---	160	119	112	115	95	89	92
14	---	---	112	---	---	157	114	107	111	102	95	99
15	---	---	101	---	---	152	113	104	109	107	103	105
16	---	---	104	---	---	145	103	96	101	115	107	111
17	---	---	126	---	---	143	97	90	93	---	---	116
18	---	---	140	---	---	142	92	86	88	---	---	121
19	160	139	151	---	---	138	86	80	84	---	---	130
20	137	111	120	---	---	136	81	79	80	---	---	132
21	110	106	108	---	---	132	80	76	79	---	---	146
22	111	102	106	---	---	126	79	76	77	---	---	130
23	125	113	118	---	---	124	79	76	77	---	---	128
24	137	125	131	---	---	127	79	76	77	---	---	118
25	146	134	141	---	---	130	84	79	81	---	---	109
26	153	146	150	---	---	125	82	77	80	---	---	100
27	162	153	156	---	---	129	86	80	82	---	---	97
28	171	156	161	---	---	130	85	80	82	---	---	86
29	180	156	166	---	---	126	82	80	81	---	---	80
30	183	162	169	---	---	127	82	80	81	---	---	74
31	---	---	---	---	---	129	82	79	80	---	---	---
MONTH	183	102	134	190	140	147	123	76	101	115	55	100

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	15.5	14.5	15.0	13.5	10.5	12.5	---	---	---
2	---	---	---	15.0	14.5	14.5	10.5	7.5	8.5	---	---	---
3	---	---	---	14.5	13.0	13.5	7.5	6.5	7.0	---	---	---
4	---	---	---	13.5	12.5	13.0	8.5	7.0	3.0	---	---	---
5	---	---	---	13.0	12.0	12.5	9.0	8.5	9.0	---	---	---
6	---	---	---	---	---	---	8.5	8.0	8.5	---	---	---
7	---	---	---	---	---	---	8.5	8.0	8.5	---	---	---
8	---	---	---	---	---	---	9.5	8.5	9.0	6.5	6.0	6.0
9	---	---	---	---	---	---	11.5	9.5	10.5	6.0	5.5	5.5
10	---	---	---	---	---	---	13.5	11.5	12.5	6.0	5.0	5.5
11	20.5	20.5	20.5	---	---	---	13.5	10.0	11.5	6.5	5.0	6.0
12	21.0	19.5	20.0	---	---	---	9.5	8.0	9.0	6.5	5.0	6.0
13	21.5	20.5	21.0	---	---	---	8.0	6.0	7.0	6.5	5.5	6.0
14	22.0	21.5	21.5	---	---	---	6.0	4.5	5.0	7.0	5.5	6.0
15	22.0	21.0	21.5	---	---	---	4.5	4.0	4.5	7.5	6.0	6.5
16	21.0	20.5	21.0	---	---	---	4.5	3.5	4.0	8.5	6.5	7.5
17	21.0	20.5	20.5	---	---	---	4.5	4.0	4.0	10.0	8.5	9.5
18	21.5	20.5	21.0	---	---	---	---	---	---	11.0	10.0	10.5
19	21.0	20.5	21.0	---	---	---	---	---	---	10.5	9.5	10.0
20	21.0	20.5	20.5	---	---	---	---	---	---	10.5	9.0	9.5
21	20.5	20.5	20.5	---	---	---	---	---	---	11.5	9.5	10.5
22	20.5	20.5	20.5	14.0	13.5	13.5	---	---	---	12.0	11.0	11.5
23	21.0	20.5	20.5	15.0	14.0	14.5	---	---	---	11.0	9.5	10.0
24	21.5	20.5	21.0	16.5	15.0	16.0	---	---	---	9.5	9.0	9.0
25	21.5	21.0	21.0	18.0	16.5	17.5	---	---	---	11.0	9.5	10.0
26	21.0	20.0	20.5	19.0	18.0	18.5	---	---	---	10.5	9.0	10.0
27	20.0	19.0	19.5	19.5	16.5	18.5	---	---	---	9.0	6.5	8.0
28	19.0	18.0	18.5	16.5	12.5	14.5	---	---	---	7.0	6.0	6.5
29	18.0	17.0	17.5	12.5	11.5	11.5	---	---	---	9.0	7.0	8.0
30	17.0	16.0	16.5	13.0	11.5	12.0	---	---	---	10.0	8.5	9.5
31	16.0	15.5	15.5	---	---	---	---	---	---	11.0	9.5	10.5
MONTH	22.0	15.5	20.0	19.5	11.5	14.5	13.5	3.5	8.0	12.0	5.0	8.5

08019500 BIG SANDY CREEK NEAR BIG SANDY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	13.0	11.0	12.0	11.5	10.5	11.0	19.0	18.5	19.0	21.0	20.5	21.0
2	15.0	13.0	14.0	12.5	10.0	11.0	19.5	18.5	19.0	20.5	20.0	20.5
3	15.5	15.0	15.5	13.5	12.0	13.0	20.0	19.0	19.5	20.5	19.5	20.0
4	16.0	15.0	15.5	14.0	12.0	13.0	20.5	19.5	20.0	19.5	19.0	19.5
5	15.5	14.5	15.0	13.5	12.0	13.0	20.5	19.0	19.5	20.0	19.5	19.5
6	15.5	14.0	14.5	14.5	13.0	13.0	21.0	19.5	20.0	21.0	20.0	20.5
7	14.0	13.0	13.5	14.5	12.5	13.5	22.0	21.0	21.5	22.0	21.0	21.5
8	13.0	11.0	12.0	15.0	13.0	14.0	22.5	22.0	22.0	22.5	22.0	22.5
9	10.5	9.0	10.0	17.0	14.5	15.5	22.0	20.0	21.0	23.0	22.0	22.5
10	9.0	6.5	7.5	19.0	16.5	17.5	20.0	19.0	19.0	22.5	22.0	22.5
11	6.5	5.5	6.0	18.0	17.0	17.5	19.0	18.5	18.5	22.0	21.0	21.5
12	6.0	5.0	5.5	18.0	16.5	17.0	18.5	18.0	18.5	---	---	---
13	5.5	5.0	5.5	18.0	16.5	17.0	19.0	18.0	18.5	---	---	---
14	8.0	5.5	7.0	18.0	16.5	17.0	20.0	19.0	19.5	---	---	---
15	9.0	7.0	8.0	17.5	16.0	17.0	19.5	17.0	18.5	---	---	---
16	12.5	9.0	10.5	17.5	16.0	16.5	17.5	15.0	17.0	---	---	---
17	14.5	12.5	13.5	17.0	15.5	16.5	---	---	---	---	---	---
18	15.0	14.0	14.5	18.0	16.5	17.0	---	---	---	---	---	---
19	15.5	14.0	15.0	17.0	16.0	17.0	---	---	---	---	---	---
20	16.5	15.0	16.0	16.0	14.5	15.5	---	---	---	---	---	---
21	16.0	13.5	14.5	14.5	13.0	14.0	---	---	---	---	---	---
22	13.5	12.5	13.0	13.5	12.0	13.0	---	---	---	---	---	---
23	13.0	11.5	12.0	15.0	12.5	13.5	18.0	17.5	18.0	---	---	---
24	13.0	11.5	12.5	15.5	13.5	14.5	19.5	17.5	18.5	---	---	---
25	14.0	12.0	13.0	17.0	14.5	15.5	20.0	19.0	19.5	---	---	---
26	15.0	13.0	14.0	17.5	15.5	16.5	21.0	19.5	20.0	---	---	---
27	15.0	14.0	14.5	18.5	16.0	17.0	21.0	20.5	20.5	---	---	---
28	14.0	12.0	13.0	19.0	17.0	18.0	20.5	19.5	20.0	---	---	---
29	---	---	---	19.0	17.0	18.0	20.5	19.5	20.0	---	---	---
30	---	---	---	19.5	17.5	18.5	21.0	20.0	20.5	---	---	---
31	---	---	---	19.5	17.5	18.5	---	---	---	---	---	---
MONTH	16.5	5.0	12.0	19.5	10.0	15.5	22.5	15.0	19.5	23.0	19.0	21.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	27.5	26.5	27.0	---	---	---	22.0	21.5	22.0
2	---	---	---	27.0	26.5	26.5	---	---	---	22.5	22.0	22.0
3	---	---	---	26.5	25.5	26.0	---	---	---	23.0	22.0	22.5
4	---	---	---	26.5	25.5	26.0	---	---	---	24.0	23.0	23.5
5	---	---	---	27.0	25.5	26.5	---	---	---	24.0	23.0	23.5
6	---	---	---	27.0	26.0	26.5	---	---	---	23.0	22.5	22.5
7	---	---	---	27.0	26.0	26.5	26.5	26.0	26.5	22.5	21.0	22.0
8	---	---	---	27.5	23.5	25.5	27.0	26.0	26.5	23.0	21.0	21.5
9	---	---	---	---	---	---	27.0	26.0	26.5	23.5	22.0	22.5
10	---	---	---	---	---	---	27.0	26.5	26.5	23.5	23.0	23.0
11	---	---	---	---	---	---	26.5	25.5	26.0	24.0	23.0	23.5
12	---	---	---	---	---	---	25.5	24.5	25.0	24.0	23.5	24.0
13	---	---	---	---	---	---	25.5	24.5	25.0	23.5	22.5	23.0
14	---	---	---	---	---	---	25.0	23.5	24.5	23.0	22.0	22.5
15	---	---	---	---	---	---	26.0	24.5	25.0	23.5	22.0	23.0
16	---	---	---	---	---	---	26.5	25.5	26.0	24.0	23.0	23.5
17	---	---	---	---	---	---	27.0	25.5	26.5	24.0	23.5	23.5
18	---	---	---	---	---	---	27.5	26.0	26.5	24.0	23.5	24.0
19	---	---	---	---	---	---	27.0	26.0	26.5	---	---	---
20	25.0	24.0	24.5	---	---	---	26.5	25.5	26.0	---	---	---
21	25.5	24.5	25.0	---	---	---	26.5	25.5	26.0	---	---	---
22	26.0	25.0	25.5	---	---	---	26.0	25.5	25.5	---	---	---
23	26.5	25.5	26.0	---	---	---	25.5	24.5	25.0	---	---	---
24	26.5	25.5	26.0	---	---	---	25.5	25.0	25.0	---	---	---
25	26.5	25.5	26.0	---	---	---	26.0	24.5	25.0	---	---	---
26	26.5	26.0	26.0	---	---	---	26.0	24.5	25.0	---	---	---
27	26.5	26.0	26.0	---	---	---	26.0	25.0	25.5	---	---	---
28	27.0	26.0	26.5	---	---	---	25.5	24.0	24.5	---	---	---
29	27.5	26.5	27.0	---	---	---	24.0	22.5	23.0	---	---	---
30	27.5	26.5	27.0	---	---	---	22.5	21.0	21.5	---	---	---
31	---	---	---	---	---	---	22.0	21.0	21.5	---	---	---
MONTH	27.5	24.0	26.0	27.5	23.5	26.5	27.5	21.0	25.0	24.0	21.0	23.0

08019500 BIG SANDY CREEK NEAR BIG SANDY, TX--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	27	8	.58	94	10	2.5	342	32	30
2	23	10	.62	76	8	1.6	303	14	11
3	18	7	.34	62	6	1.0	196	7	3.7
4	14	7	.26	50	6	.81	156	6	2.5
5	13	8	.28	43	4	.46	150	6	2.4
6	12	6	.19	40	3	.32	146	7	2.8
7	10	8	.22	36	2	.19	127	8	2.7
8	9.4	8	.20	32	2	.17	108	8	2.3
9	9.7	8	.21	29	2	.16	94	9	2.3
10	9.9	8	.21	28	3	.23	90	10	2.4
11	9.8	6	.16	81	13	2.8	371	49	55
12	10	6	.16	152	26	11	619	19	32
13	9.3	8	.20	137	17	6.3	609	18	30
14	7.0	7	.13	120	12	3.9	826	37	83
15	13	6	.21	99	11	2.9	1220	30	99
16	15	6	.24	84	9	2.0	965	24	63
17	14	6	.23	82	9	2.0	700	15	28
18	21	7	.40	81	9	2.0	524	9	13
19	124	27	9.0	79	8	1.7	394	7	7.4
20	142	27	10	81	8	1.7	294	6	4.8
21	172	23	11	79	6	1.3	226	6	3.7
22	118	18	5.7	75	6	1.2	185	4	2.0
23	70	14	2.6	68	6	1.1	160	3	1.3
24	59	14	2.2	94	13	3.3	143	5	1.9
25	51	13	1.8	143	20	7.7	130	5	1.8
26	39	12	1.3	151	18	7.3	119	6	1.9
27	30	12	.97	185	24	12	113	4	1.2
28	31	12	1.0	237	24	15	110	2	.59
29	66	15	2.7	244	16	11	106	4	1.1
30	89	16	3.8	231	13	8.1	101	2	.55
31	112	13	3.9	---	---	---	100	4	1.1

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	97	4	1.0	71	8	1.5	81	5	1.1
2	94	4	1.0	68	8	1.5	79	6	1.3
3	91	2	.49	189	19	16	77	6	1.2
4	90	2	.49	501	52	69	81	6	1.3
5	86	2	.46	687	25	45	87	6	1.4
6	82	2	.44	2490	25	170	78	8	1.7
7	80	2	.43	1960	12	64	73	6	1.2
8	76	3	.62	1250	10	34	71	7	1.3
9	75	4	.81	954	13	33	71	5	.96
10	76	7	1.4	798	10	22	70	6	1.1
11	73	5	.99	656	10	18	66	8	1.4
12	70	4	.76	522	9	13	77	9	1.9
13	68	3	.55	407	4	4.4	80	8	1.7
14	65	5	.88	330	4	3.6	83	8	1.8
15	61	4	.66	268	5	3.6	84	7	1.6
16	60	3	.49	218	6	3.5	87	7	1.6
17	67	3	.54	182	7	3.4	88	8	1.9
18	73	4	.79	162	6	2.6	100	10	2.7
19	74	6	1.2	147	7	2.8	123	17	5.6
20	71	3	.58	136	11	4.0	120	15	4.9
21	73	3	.59	127	9	3.1	110	10	3.0
22	73	4	.79	124	7	2.3	96	8	2.1
23	69	4	.75	117	6	1.9	90	6	1.5
24	68	3	.55	110	6	1.8	85	8	1.8
25	84	6	1.4	102	4	1.1	78	8	1.7
26	99	8	2.1	96	4	1.0	77	9	1.9
27	117	8	2.5	91	6	1.5	71	9	1.7
28	110	7	2.1	85	5	1.1	71	9	1.7
29	88	7	1.7	---	---	---	74	8	1.6
30	77	7	1.5	---	---	---	71	9	1.7
31	74	6	1.2	---	---	---	63	9	1.5

08019500 BIG SANDY CREEK NEAR BIG SANDY, TX--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	60	10	1.6	146	13	5.1	93	40	10
2	61	8	1.3	187	14	7.1	237	42	27
3	62	8	1.3	172	13	6.0	363	50	49
4	75	9	1.8	163	17	7.5	232	25	16
5	155	34	14	171	17	7.8	195	25	13
6	183	31	15	168	15	6.8	190	30	15
7	198	22	12	140	14	5.3	188	55	28
8	215	21	12	111	12	3.6	168	26	12
9	215	20	12	106	14	4.0	143	21	8.1
10	211	19	11	106	14	4.0	131	23	8.1
11	187	20	10	129	18	6.3	165	24	11
12	200	32	17	132	18	6.4	201	32	17
13	206	27	15	142	15	5.8	225	22	13
14	189	18	9.2	146	17	6.7	266	20	14
15	168	17	7.7	143	15	5.8	332	18	16
16	143	16	6.2	118	12	3.8	317	18	15
17	122	14	4.6	164	52	28	221	18	11
18	108	9	2.6	291	38	30	187	20	10
19	107	10	2.9	259	23	16	217	22	13
20	154	23	9.6	290	17	13	599	28	45
21	146	16	6.3	296	17	14	1020	23	63
22	204	19	10	332	13	12	833	20	45
23	283	17	13	296	14	11	583	15	24
24	273	15	11	217	17	10	344	17	16
25	194	14	7.3	153	15	6.2	228	16	9.8
26	136	14	5.1	139	14	5.3	170	14	6.4
27	113	13	4.0	127	16	5.5	135	14	5.1
28	119	12	3.9	99	16	4.3	124	13	4.4
29	108	12	3.5	85	20	4.6	127	17	5.8
30	116	10	3.1	68	18	3.3	120	15	4.9
31	---	---	---	58	35	5.5	---	---	---

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	92	15	3.7	11	13	.39	11	12	.36
2	72	18	3.5	12	15	.49	13	15	.53
3	72	21	4.1	16	13	.56	17	20	.92
4	79	25	5.3	14	13	.49	20	19	1.0
5	70	28	5.3	18	15	.73	30	16	1.3
6	56	26	3.9	19	15	.77	69	23	4.3
7	49	23	3.0	15	12	.49	85	26	6.0
8	42	20	2.3	13	13	.46	64	19	3.3
9	34	18	1.7	11	13	.39	39	13	1.4
10	28	15	1.1	9.4	14	.36	29	10	.78
11	23	13	.81	9.8	15	.40	25	12	.81
12	19	10	.51	11	15	.45	24	20	1.3
13	16	10	.43	11	15	.45	23	21	1.3
14	14	10	.38	10	14	.38	22	22	1.3
15	12	10	.32	12	14	.45	21	21	1.2
16	9.4	11	.28	14	14	.53	18	19	.92
17	8.8	11	.26	13	14	.49	14	17	.64
18	8.0	10	.22	13	15	.53	16	16	.69
19	7.5	10	.20	12	14	.45	28	16	1.2
20	9.2	10	.25	12	14	.45	39	17	1.8
21	8.3	10	.22	11	13	.39	38	17	1.7
22	11	10	.30	10	16	.43	25	17	1.1
23	10	11	.30	10	21	.57	19	14	.72
24	9.4	11	.28	10	23	.62	15	15	.61
25	8.8	10	.24	10	17	.46	13	12	.42
26	10	10	.27	11	14	.42	21	17	.96
27	9.3	12	.30	10	14	.38	20	18	.97
28	9.1	13	.32	10	15	.41	16	17	.73
29	11	13	.39	15	16	.65	15	17	.69
30	11	12	.36	15	15	.61	13	14	.49
31	11	13	.39	12	9	.29	---	---	---

08020000 SABINE RIVER NEAR GLADEWATER, TX

LOCATION.--Lat 32°31'37", long 94°57'36", Gregg County, Hydrologic Unit 12010002, on right bank 46 ft downstream from bridge on U.S. Highway 271, 0.4 mi downstream from Glade Creek, 1.2 mi southwest of Gladewater, and at mile 397.5.

DRAINAGE AREA.--2,791 mi².

PERIOD OF RECORD.--October 1932 to current year.

REVISED RECORDS.--WSP 1732: Drainage area. WDR TX-73-1: 1972.

GAGE.--Water-stage recorder. Datum of gage is 243.85 ft above National Geodetic Vertical Datum of 1929 (Texas Reclamation Department bench mark based on Geological Survey datum). Prior to Oct. 13, 1933, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharge. Records good. Flow is partially regulated by Lake Tawakoni (station 08017400), capacity 936,200 acre-ft, by Lake Fork Creek Reservoir (station 08018800), capacity 675,800 acre-ft, and five tributary reservoirs with a combined capacity of 42,370 acre-ft. There are many diversions above station for oilfield operations and municipal supply. Rain gage and gage-height telemeter at station.

AVERAGE DISCHARGE.--28 years (water years 1933-60) prior to regulation by Lake Tawakoni, 2,012 ft³/s (1,458,000 acre-ft/yr); 26 years (water years 1961-86) regulated, 1,647 ft³/s (1,193,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 138,000 ft³/s Apr. 2, 1945 (gage height, 44.16 ft, from floodmark), from rating curve extended above 91,000 ft³/s; minimum, 5.6 ft³/s Aug. 16, 1939.
Maximum stage since at least 1892, that of Apr. 2, 1945.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1914 reached a stage of about 41.7 ft (discharge, 85,900 ft³/s), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,800 ft³/s Feb. 12 at 1500 hours (gage height, 33.44 ft); minimum, 22 ft³/s Oct. 12-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	885	2560	1000	504	1340	276	4000	4240	6290	57	40
2	41	848	2840	879	419	1260	268	3970	4180	5890	53	48
3	44	750	2750	807	775	1270	267	3880	4220	5350	52	78
4	38	572	2540	790	3760	1310	431	3730	4280	4510	50	125
5	33	437	2130	758	4820	1250	1090	3530	4170	3340	72	147
6	30	339	1550	672	4910	1060	2820	3320	3970	2200	97	187
7	30	275	1030	619	5080	804	3630	3100	3750	1390	93	288
8	31	221	728	642	5520	628	3490	2900	3670	1090	83	380
9	29	184	588	691	5280	553	3130	2690	3990	967	71	338
10	26	161	540	613	8160	522	2890	2540	4260	870	57	236
11	25	278	2210	551	11300	499	2840	2380	4490	771	53	164
12	23	767	3950	580	12700	486	3090	2300	4690	676	58	121
13	22	916	4450	547	12200	490	3540	2320	4830	593	71	98
14	22	837	4500	482	11200	493	4020	2350	4950	506	63	86
15	24	587	4490	445	10000	492	4510	2250	5050	420	56	80
16	26	506	4640	448	9170	486	4960	2170	5140	344	48	74
17	30	529	4980	456	8320	479	5320	2530	5290	283	46	66
18	55	528	5400	471	7580	512	5580	3630	5440	242	43	60
19	511	523	5790	479	6980	603	5790	4260	5670	209	38	56
20	1410	640	6140	469	6510	649	6080	4490	6100	179	35	65
21	1580	779	6350	452	6030	593	6160	4530	6420	153	33	101
22	1130	808	6430	435	5560	495	6150	4500	6690	145	33	127
23	860	689	6380	403	5060	563	6080	4420	7140	124	32	98
24	860	645	6240	385	4410	600	5940	4340	7750	115	31	86
25	814	1080	5970	408	3600	525	5690	4300	7910	103	29	92
26	573	1390	5620	458	2760	439	5360	4320	7800	96	29	89
27	337	1650	5100	518	2060	376	4970	4370	7560	89	28	79
28	259	2010	4200	506	1580	337	4660	4410	7240	81	30	82
29	319	2230	2960	455	---	318	4410	4400	6960	74	30	80
30	511	2330	1950	475	---	302	4210	4360	6650	67	31	75
31	853	---	1300	560	---	290	---	4310	---	60	36	---
TOTAL	10573	24394	116306	17454	166248	20024	117652	110600	164500	37227	1538	3646
MEAN	341	813	3752	563	5937	646	3922	3568	5483	1201	49.6	122
MAX	1580	2330	6430	1000	12700	1340	6160	4530	7910	6290	97	380
MIN	22	161	540	385	419	290	267	2170	3670	60	28	40
AC-FT	20970	48390	230700	34620	329800	39720	233400	219400	326300	73840	3050	7230

CAL YR 1985 TOTAL 608663 MEAN 1668 MAX 7310 MIN 17 AC-FT 1207000
WTR YR 1986 TOTAL 790162 MEAN 2165 MAX 12700 MIN 22 AC-FT 1567000

08020450 SABINE RIVER ABOVE LONGVIEW, TX

LOCATION.--Lat 32°28'47", long 94°48'15", Gregg County, Hydrologic Unit 12010002, on left bank at city of Longview pumping station at the end of Swinging Bridge Road, 1.4 mi southwest of the intersection of Swinging Bridge Road and Farm Road 2206 in Longview, 2.5 mi downstream from Hawkins Creek, 2.6 mi upstream from U.S. Highway 259, and at mile 357.4.

DRAINAGE AREA.--2,943 mi².

PERIOD OF RECORD.--August 1983 to current year (operated as a low-flow station only).

GAGE--Water-stage recorder and concrete control. Datum of gage is 230.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Daily discharges above 500 ft³/s not published. Flow is partially regulated by Lake Tawakoni (station 08017400), capacity 936,200 acre-ft, and by Lake Fork Reservoir (station 08018800), capacity 675,800 acre-ft and by five tributary reservoirs with a combined capacity of 42,370 acre-ft. There are many diversions above station for oilfield operations and for municipal and industrial supply.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 25.74 ft June 28, 1986; minimum daily discharge, 0.50 ft³/s

Sept. 4, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 25.74 ft June 28 at 0900 hours; minimum daily discharge, 15 ft³/s Aug. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	---		---	---	---	296			---	99	40
2	18	---		---	496	---	281			---	91	79
3	22	---		---	---	---	270			---	79	91
4	36	---		---	---	---	304			---	66	120
5	36	---		---	---	---	---			---	58	175
6	36	427		---	---	---	---			---	70	213
7	33	337		---	---	---	---			---	81	265
8	26	274		---	---	---	---			---	81	337
9	24	232		---	---	---	---			---	75	386
10	28	214		---	---	---	---			---	71	326
11	28	---		---	---	---	---			---	75	224
12	29	---		---	---	---	---			---	137	174
13	28	---		---	---	---	---			---	122	143
14	29	---		---	---	---	---			---	89	124
15	28	---		---	---	---	---			492	77	105
16	28	---		478	---	---	---			422	66	105
17	28	---		477	---	---	---			356	49	86
18	34	---		483	---	---	---			300	35	48
19	324	---		500	---	---	---			265	33	43
20	---	---		---	---	---	---			231	26	53
21	---	---		497	---	---	---			210	18	59
22	---	---		481	---	---	---			197	26	87
23	---	---		463	---	---	---			184	31	112
24	---	---		443	---	---	---			175	35	86
25	---	---		430	---	---	---			169	25	81
26	---	---		443	---	---	---			162	16	91
27	494	---		493	---	445	---			152	15	100
28	345	---		---	---	391	---			145	34	88
29	432	---		---	---	355	---			134	38	88
30	---	---		470	---	332	---			127	35	81
31	---	---		---	---	313	---			111	33	---
TOTAL	---	---		---	---	---	---			---	1786	4010
MEAN	---	---		---	---	---	---			---	57.6	134
MAX	---	---		---	---	---	---			---	137	386
MIN	---	---		---	---	---	---			---	15	40
AC-FT	---	---		---	---	---	---			---	3540	7950

CAL YR 1985 TOTAL - MEAN - MAX - MIN - AC-FT
WTR YR 1986 TOTAL - MEAN - MAX - MIN - AC-FT

08022040 SABINE RIVER NEAR BECKVILLE, TX

LOCATION.--Lat 32°19'38", long 94°21'12", Panola County, Hydrologic Unit 12010002, at downstream side of highway embankment near right end of downstream bridge on U.S. Highway 59, 0.9 mi upstream from Eightmile Creek, 6.0 mi upstream from Farm Road 1794, 8.4 mi northeast of Beckville, 12.4 mi downstream from State Highway 43, and at mile 327.0.

DRAINAGE AREA.--3,589 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Prior to October 1978, published as "near Tatum".

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 190.00 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1978, at site 12.4 mi upstream at datum 14.18 ft higher. Prior to Sept. 21, 1945, nonrecording gage.

REMARKS.--No estimated daily discharges. Records good. Eight major reservoirs, with a combined capacity of 1,701,000 acre-ft, largely regulated flow. Several diversions above station and below Lake Tawakoni for oilfield operation, municipal, and industrial uses. Low flows are sustained by sewage effluents returned to the river above the station For statement regarding regulation by Soil Conservaiton Service floodwater-retarding structures, see station 08018500.

AVERAGE DISCHARGE.--22 years (water years 1939-60) prior to regulation by Lake Tawakoni, 2,663 ft³/s (1,929,000 acre-ft/yr); 26 years (water years 1961-86) regulated, 2,229 ft³/s (1,615,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 123,000 ft³/s Apr. 4, 1945 (gage height, 33.80 ft), site and datum then in use, from graph based on gage readings, from rating curve extended above 66,000 ft³/s on basis of partly estimated measurement of 88,900 ft³/s; minimum observed, 2.4 ft³/s Aug. 11, 1964.
Maximum stage since at lease 1884, that of Apr. 4, 1945.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1884 reached a stage of about 2 ft lower than flood of Apr. 4, 1945. These dates and gage heights are based on information for stations near Tatum (08022000) and at Logansport, La. (08022500).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,100 ft³/s June 28, at 0600 hours (gage height, 27.68 ft); minimum daily, 24 ft³/s Oct. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	1790	4210	3710	749	3450	510	6330	5480	9810	124	73
2	117	1540	5250	2240	803	2320	480	6040	5990	8810	110	74
3	77	1260	5560	1640	789	1910	474	5960	6490	8280	104	93
4	56	1120	5150	1440	2210	1780	453	5810	6540	7910	98	157
5	38	947	4590	1320	5910	1760	498	5490	6340	7530	203	185
6	38	764	3910	1260	7410	1740	2100	5130	6470	6980	186	279
7	38	612	3090	1180	7900	1600	3660	4710	6090	5970	126	487
8	42	492	2240	1080	7850	1380	4170	4300	5610	4040	112	487
9	34	417	1640	1030	7520	1170	4390	3940	6010	2220	124	433
10	28	338	1290	1040	7230	1000	4290	3700	7740	1580	121	458
11	26	1070	2160	1030	7180	922	3980	3590	7940	1340	123	430
12	34	3810	6840	977	7280	872	3770	3460	6900	1180	124	341
13	31	3730	8870	915	7620	859	4030	3210	6140	1030	338	266
14	29	2810	9250	920	8140	861	4160	3010	5780	897	299	214
15	31	2290	8860	884	8830	824	4270	2910	5660	781	199	175
16	25	1810	8210	826	9560	808	4470	2790	5560	683	152	154
17	36	1550	7400	795	10200	783	4710	2820	5610	588	131	134
18	40	1520	6540	803	10700	778	4960	4820	5790	507	113	122
19	54	1330	6410	843	11000	846	5270	6390	5870	440	96	124
20	554	1130	5740	850	11100	987	6720	6600	6010	369	85	117
21	1260	1130	5770	858	11100	970	8230	6430	6170	321	77	139
22	1570	1160	6380	846	10800	939	8500	6320	6270	401	74	138
23	1490	1190	6750	801	10400	856	7970	6070	6360	359	71	155
24	1180	1420	6950	746	9830	775	7710	5740	6490	342	84	172
25	974	3630	7110	721	9100	821	7540	5510	6730	267	92	188
26	927	4770	7240	723	8240	828	7330	5490	6960	215	88	168
27	829	4890	7310	740	6980	774	7120	5450	9010	191	85	148
28	659	4810	7280	771	5450	676	6980	5360	13400	172	70	160
29	661	4600	7110	797	---	609	6970	5240	12200	161	65	179
30	974	4100	6710	761	---	557	6700	5140	11000	152	90	179
31	1370	---	5660	720	---	523	---	5200	---	138	85	---
TOTAL	13327	62030	181480	33267	211881	34980	142415	152960	208610	73664	3849	6429
MEAN	430	2068	5854	1073	7567	1128	4747	4934	6954	2376	124	214
MAX	1570	4890	9250	3710	11100	3450	8500	6600	13400	9810	338	487
MIN	25	338	1290	720	749	523	453	2790	5480	138	65	73
CFSM	.12	.58	1.63	.30	2.11	.31	1.32	1.37	1.94	.66	.03	.06
IN.	.14	.64	1.88	.34	2.20	.36	1.48	1.59	2.16	.76	.04	.07
AC-FT	26430	123000	360000	65990	420300	69380	282500	303400	413800	146100	7630	12750

CAL YR 1985 TOTAL 853109.8 MEAN 2337 MAX 9250 MIN 8.2 CFSM .65 IN. 8.84 AC-FT 1692000
WTR YR 1986 TOTAL 1124892 MEAN 3082 MAX 13400 MIN 25 CFSM .86 IN. 11.66 AC-FT 2231000

08022040 SABINE RIVER NEAR BECKVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: February 1952 to current year. Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: March 1968 to June 1981.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1952 to current year.
WATER TEMPERATURES: February 1952 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request. Formerly published as 08022000 Sabine River near Tatum.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 3,040 microsiemens Jan. 13, 1966; minimum, 53 microsiemens Mar. 31, 1979.
WATER TEMPERATURES: Maximum, 38.0°C July 8, 1969; minimum, 0.0°C on several days during December 1983.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 952 microsiemens Sept. 4; minimum daily, 120 microsiemens Dec. 15.
WATER TEMPERATURES: Maximum daily, 33.0°C Aug. 2; minimum daily, 5.0°C Dec. 19, 23, 25, 26.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
OCT												
09...	1052	42	640	8.50	20.0	35	6.6	7.4	82	6.8	94	54
JAN												
09...	1735	1020	381	7.40	7.0	20	14	12.5	--	1.6	64	5
MAR												
05...	1025	1880	292	7.10	11.0	50	22	9.5	87	1.2	62	11
APR												
24...	1643	7720	181	7.10	19.5	45	20	7.3	80	1.2	56	7
JUN												
19...	1800	5880	197	7.00	26.0	55	25	5.4	67	1.0	50	1
AUG												
05...	1710	233	859	8.20	32.0	15	3.5	8.6	--	1.3	75	0

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
OCT											
09...	27	6.4	100	5	7.0	40	84	140	0.8	0.3	390
JAN											
09...	18	4.7	42	2	3.5	59	24	57	0.2	14	190
MAR											
05...	17	4.8	30	2	4.2	51	24	39	0.3	7.0	160
APR											
24...	16	3.9	14	0.8	4.6	49	16	19	0.2	5.5	110
JUN											
19...	14	3.6	16	1	4.5	49	17	16	0.2	7.3	110
AUG											
05...	21	5.5	160	8	4.4	220	44	110	0.4	11	490

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DISSOLVED (UG/L AS AS)
OCT											
09...	16	6	0.27	0.03	0.30	0.07	1.3	1.4	0.15	14	--
JAN											
09...	17	11	0.47	0.03	0.50	0.17	0.53	0.7	0.21	3.8	--
MAR											
05...	45	14	0.29	0.01	0.30	0.05	0.65	0.7	0.17	9.0	<1
APR											
24...	31	10	0.09	0.01	0.10	0.04	0.76	0.8	0.11	12	--
JUN											
19...	49	8	0.18	0.02	0.20	0.03	0.67	0.7	0.16	9.4	1
AUG											
05...	8	6	--	<0.01	<0.10	0.03	0.87	0.9	0.32	13	--

08022040 SABINE RIVER NEAR BECKVILLE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 09...	--	--	--	--	--	--	--	--	--	--	--
JAN 09...	--	--	--	--	--	--	--	--	--	--	--
MAR 05...	71	<1	<10	<1	87	4	110	<0.1	<1	<1	17
APR 24...	--	--	--	--	--	--	--	--	--	--	--
JUN 19...	69	<1	<10	3	170	<5	14	<0.1	<1	<1	30
AUG 05...	--	--	--	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1985	13327	274	153	5500	46	1660	27	966	50
NOV.	1985	62030	225	125	20900	36	5980	23	3830	43
DEC.	1985	181480	163	92	44900	26	12500	17	8420	33
JAN.	1986	33267	364	203	18200	62	5540	35	3170	65
FEB.	1986	211881	167	94	53700	26	15000	18	10000	33
MAR.	1986	34980	333	186	17500	56	5260	33	3090	60
APR.	1986	142415	217	122	46800	35	13300	22	8590	42
MAY	1986	152960	212	119	49200	34	14000	22	9070	42
JUNE	1986	208610	188	105	59400	30	16700	20	11100	37
JULY	1986	73664	243	136	27000	39	7840	25	4900	46
AUG.	1986	3849	596	329	3420	110	1150	52	541	90
SEPT	1986	6429	619	341	5930	120	2040	53	916	90
TOTAL		1124892	**	**	352000	**	101000	**	64600	**
WTD.AVG.		3082	207	116	**	33	**	21	**	40

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	443	208	260	229	489	254	448	220	208	185	705	701
2	840	231	203	277	494	269	448	214	218	192	747	758
3	860	223	187	296	481	285	472	223	194	198	737	871
4	875	221	191	313	443	289	485	236	197	208	750	952
5	880	233	197	327	137	292	492	221	198	215	679	925
6	904	251	195	330	134	294	375	222	193	225	708	820
7	908	280	213	339	124	297	254	226	216	238	699	826
8	927	317	256	348	138	289	196	263	207	258	667	518
9	730	431	255	368	145	296	158	264	216	282	792	416
10	663	468	275	371	141	338	193	259	201	322	700	454
11	610	340	240	370	146	346	275	260	198	341	566	452
12	548	184	152	379	143	348	297	253	189	347	508	484
13	542	136	125	398	138	337	259	246	191	362	698	437
14	392	202	123	413	136	363	262	244	189	396	550	401
15	358	213	120	399	137	379	215	236	193	424	515	389
16	344	208	126	389	138	373	208	278	199	413	442	413
17	393	223	137	404	138	370	204	265	200	408	291	464
18	449	261	138	439	140	372	205	236	210	424	346	488
19	491	275	140	457	146	361	206	185	212	434	512	520
20	350	288	135	418	158	364	198	171	200	390	595	536
21	298	299	134	426	175	355	186	147	185	416	557	550
22	278	295	130	417	182	374	174	150	176	411	502	582
23	128	328	135	425	190	408	183	167	175	435	511	683
24	131	303	148	436	197	398	193	184	176	473	500	825
25	169	227	160	449	209	434	195	203	177	486	493	831
26	193	184	169	460	216	396	198	205	175	510	526	887
27	228	207	176	463	222	387	214	216	170	486	539	895
28	470	201	183	447	232	393	229	200	149	466	555	880
29	434	200	188	455	---	455	233	199	160	616	570	874
30	259	230	196	428	---	503	225	199	171	588	589	675
31	247	---	204	422	---	470	---	203	---	629	625	---
MEAN	491	256	177	390	206	358	263	219	191	380	586	650

08022040 SABINE RIVER NEAR BECKVILLE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	16.0	14.0	7.0	12.0	12.0	21.0	---	22.0	27.0	32.0	26.0
2	17.0	11.0	12.0	9.0	13.0	11.0	22.0	21.0	23.0	27.0	33.0	26.0
3	17.0	16.0	11.0	7.0	14.0	14.0	22.0	20.0	24.0	27.0	31.0	28.0
4	18.0	14.0	11.0	8.0	14.0	14.0	20.0	20.0	24.0	28.0	29.0	27.0
5	19.0	14.0	10.0	8.0	16.0	13.0	21.0	21.0	24.0	28.0	28.0	28.0
6	16.0	14.0	10.0	8.0	15.0	13.0	21.0	20.0	24.0	27.0	28.0	26.0
7	17.0	14.0	9.0	7.0	14.0	13.0	21.0	21.0	24.0	27.0	28.0	26.0
8	17.0	14.0	11.0	7.0	14.0	13.0	21.0	22.0	25.0	28.0	29.0	25.0
9	20.0	15.0	10.0	7.0	13.0	15.0	20.0	21.0	24.0	27.0	29.0	28.0
10	21.0	17.0	12.0	8.0	12.0	16.0	20.0	22.0	24.0	28.0	29.0	27.0
11	22.0	18.0	10.0	8.0	10.0	17.0	19.0	22.0	24.0	28.0	29.0	27.0
12	26.0	20.0	10.0	7.0	8.0	16.0	20.0	24.0	24.0	28.0	27.0	28.0
13	24.0	19.0	9.0	8.0	7.0	18.0	20.0	24.0	25.0	28.0	30.0	25.0
14	25.0	19.0	7.0	9.0	8.0	17.0	19.0	24.0	26.0	28.0	28.0	25.0
15	23.0	20.0	7.0	7.0	9.0	19.0	19.0	24.0	25.0	29.0	28.0	25.0
16	23.0	18.0	6.0	8.0	9.0	17.0	20.0	23.0	25.0	28.0	29.0	26.0
17	23.0	18.0	6.0	9.0	11.0	19.0	20.0	23.0	25.0	28.0	29.0	28.0
18	23.0	19.0	6.0	10.0	11.0	18.0	20.0	21.0	25.0	29.0	29.0	21.0
19	24.0	---	5.0	10.0	12.0	18.0	19.0	21.0	25.0	29.0	29.0	28.0
20	22.0	17.0	6.0	12.0	13.0	16.0	18.0	20.0	26.0	29.0	29.0	26.0
21	22.0	16.0	6.0	11.0	13.0	17.0	18.0	20.0	26.0	30.0	30.0	26.0
22	22.0	15.0	---	11.0	13.0	14.0	18.0	21.0	26.0	30.0	28.0	28.0
23	21.0	15.0	5.0	---	13.0	15.0	18.0	23.0	26.0	29.0	31.0	29.0
24	22.0	16.0	6.0	10.0	13.0	17.0	18.0	22.0	28.0	30.0	28.0	26.0
25	22.0	17.0	5.0	10.0	15.0	18.0	19.0	22.0	26.0	30.0	27.0	27.0
26	22.0	18.0	5.0	10.0	15.0	17.0	19.0	22.0	27.0	30.0	31.0	29.0
27	21.0	18.0	6.0	9.0	14.0	17.0	20.0	22.0	21.0	31.0	29.0	27.0
28	19.0	17.0	7.0	10.0	13.0	17.0	21.0	24.0	27.0	31.0	---	---
29	19.0	15.0	6.0	10.0	---	20.0	21.0	23.0	27.0	31.0	26.0	27.0
30	18.0	15.0	7.0	9.0	---	18.0	21.0	22.0	27.0	30.0	24.0	27.0
31	17.0	---	7.0	11.0	---	19.0	---	23.0	---	31.0	25.0	---
MEAN	20.5	16.5	8.0	9.0	12.5	16.0	20.0	22.0	25.0	28.5	28.5	26.5

08022060 MARTIN LAKE NEAR TATUM, TX

LOCATION.--Lat 32°15'42", long 94°34'23", Rusk County, Hydrologic Unit 12010002, on retaining wall, 30 ft to right of intake to generating plant No. 1, 1.9 mi upstream from Martin Dam on Martin Creek, 5.8 mi southwest of Tatum, and 21.9 mi upstream from mouth.

DRAINAGE AREA.--130 mi².

PERIOD OF RECORD.--April 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 15, 1976, nonrecording gage near left end of dam 1.9 mi downstream at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 8,675 ft long, including a 1,000 foot uncontrolled spillway. Deliberate impoundment began in April 1974. The uncontrolled spillway is an excavated channel cut through natural ground and located at the left end of the dam. The controlled spillway is a concrete ogee design with four 14.0- by 40.0-foot-wide tainter gates located near the left end of the dam. The low-flow outlet works consist of a 3.0- by 5.0-foot conduit with a sluice gate located in one of the gate piers. There is an 8-inch pipe with sluice gate. The area and capacity tables are based on an aerial survey made in October 1971. There are no known diversions. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..................................	321.5	-
Crest of uncontrolled spillway.............	312.0	111,500
Top of gates................................	308.0	87,960
Top of conservation pool....................	306.0	77,500
Crest of gated spillway.....................	294.0	31,040
Lowest gated outlet (invert)................	284.0	10,320

COOPERATION.--Area and capacity tables provided by Forrest and Cotton, Consulting Engineers, for Texas Utilities Services, Inc.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 93,250 acre-ft Mar. 31, 1979 (elevation, 308.95 ft); minimum since first appreciable storage, 58,320 acre-ft Feb. 4, 1981 (elevation, 301.83 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 81,790 acre-ft Dec. 11 at 2400 hours (elevation, 306.84 ft from graph; minimum 58,400 acre-ft Oct. 13-14 (elevation, 301.85 ft from graph).

Capacity table (elevation, in feet, and contents, in acre-feet)

301.0	50,960	306.0	77,470
302.0	59,040	307.0	82,620
304.0	67,880		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59590	61610	80390	79020	79370	79470	77800	79270	80140	79830	74620	71770
2	59460	61830	80290	78960	79420	79420	77700	79470	80340	79680	74380	71820
3	59370	61830	79370	79020	79520	79420	77600	79520	80550	79580	75360	71820
4	59250	61830	79220	78860	80190	79370	77550	79520	80760	79420	75210	71770
5	59120	61830	79270	78910	80040	79120	77850	79470	80700	79270	75160	71910
6	59040	61740	79320	78860	79520	79070	77900	79320	80140	79070	75070	71820
7	58910	61610	79320	78710	79520	78960	77900	79320	79730	78960	74920	71720
8	58740	61610	79420	78710	79520	78910	77750	79270	79780	78810	74720	71530
9	58610	61520	79470	78760	79730	78860	77650	79470	80500	78610	74570	71340
10	58610	62170	79520	78710	79780	78810	77550	79730	80760	78410	74620	71290
11	58530	62520	81790	78710	79780	78860	77500	79780	80030	78260	74720	71010
12	58450	68110	81010	78710	79780	78810	77700	79780	79520	78000	74620	70870
13	58400	68340	78960	78660	79880	78810	77800	79730	79520	77850	74430	70720
14	58610	68480	78100	78660	79780	78760	77550	79630	79420	77650	74280	70580
15	58610	68430	78200	78660	79930	78660	77450	79420	79370	77450	74180	70440
16	58570	68710	78360	78660	80040	78610	77400	79320	80090	77100	73940	70440
17	58530	69310	78510	79220	79980	78610	77250	80600	80390	77050	73790	70300
18	58570	69500	78610	79580	80040	78560	77250	81010	80500	76850	73600	70210
19	58990	69500	78710	79730	80040	78360	78410	80450	80810	76700	73450	70020
20	58990	69270	78710	79780	80040	78200	78960	79730	80810	76600	73210	70870
21	58950	69270	78810	79780	79930	78150	79020	79580	80760	76850	72970	70770
22	59460	69270	78860	79730	79880	78100	78960	79520	80650	76650	72780	70680
23	59460	69410	78910	79730	79880	78000	78910	79370	80550	76550	72780	70490
24	59460	73120	78810	79630	79780	77900	78910	79270	80450	76350	72830	70390
25	59370	76200	78810	79680	79780	77850	78760	79370	80340	76100	72730	70210
26	59250	77150	78810	79520	79780	77800	78660	79320	80290	75950	72590	70160
27	59330	77650	78860	79470	79730	77800	78910	79270	80290	75760	72440	69970
28	59540	77950	78860	79470	79520	77800	78960	79220	80140	75610	72250	69880
29	59670	78150	78910	79320	---	77750	78960	79120	80140	75360	72010	69740
30	61170	78660	79020	79320	---	77600	78960	79630	80040	75110	71770	69550
31	61610	---	78910	79370	---	77550	---	80040	---	74870	71580	---
MAX	61610	78660	81790	79780	80190	79470	79020	81010	80810	79830	75360	71910
MIN	58400	61520	78100	78660	79370	77550	77250	79120	79370	74870	71580	69550
(†)	302.60	302.23	306.28	306.37	306.40	306.01	306.29	306.50	306.50	305.47	304.79	304.36
(‡)	+1940	+17050	+250	+460	+150	-1970	+1410	+1080	0	-5170	-3290	-2030

CAL YR 1985 MAX 81790 MIN 58400 (‡) -410
WTR YR 1986 MAX 81790 MIN 58400 (‡) +9880

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

08022070 MARTIN CREEK NEAR TATUM, TX

LOCATION.--Lat 32°17'44", long 94°29'29", Panola County, Hydrologic Unit 1201002, on right bank, 35 ft downstream from right abutment, 360 ft to right of bridge on State Highway 149, 50 ft upstream from Gulf, Colorado and Santa Fe Railway Co. bridge, 1.7 mi upstream from Hogan Creek, 2.0 mi southeast of Tatum, 5.0 mi downstream from Martin Lake, and 15.0 mi upstream from mouth.

DRAINAGE AREA.--148 mi².

PERIOD OF RECORD.--April 1974 to current year.

REVISED RECORDS.--WDR TX-76-1: 1975.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 240.26 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 31, 1978, at site 50 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow largely regulated by Martin Lake located 5 mi upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--12 years (water years 1975-86), 79.6 ft³/s (57,670 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,540 ft³/s Apr. 30, 1976 (gage height, 13.76 ft); minimum, 0.25 ft³/s Oct. 17, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1948, 18.15 ft April 1969. The flood in April 1957 reached a stage of 13.95 ft, from information by State Department of Highways and Public Transporation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,490 ft³/s Dec. 12 at 2200 hours (gage height, 12.49 ft); minimum, 0.42 ft³/s Aug. 26-28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	17	98	12	9.1	7.5	2.5	10	92	9.2	6.1	6.8
2	5.4	11	200	11	8.9	7.6	4.9	33	33	8.5	6.0	8.6
3	5.3	11	651	11	9.8	8.1	9.3	22	21	8.3	9.6	10
4	5.0	9.1	538	10	68	7.7	9.3	14	20	11	9.5	8.6
5	4.8	7.8	219	9.8	175	7.6	13	12	53	9.4	6.7	14
6	4.5	7.0	32	9.7	392	7.6	15	11	254	8.4	6.2	19
7	4.6	6.5	15	9.8	233	7.5	10	9.7	335	7.8	6.1	11
8	4.7	6.2	13	9.4	29	7.5	11	9.1	383	7.3	5.8	9.2
9	4.7	5.0	12	9.2	24	7.5	13	12	252	7.1	5.4	8.4
10	4.8	5.5	12	9.6	33	6.6	9.5	16	130	7.1	5.3	7.9
11	4.5	250	257	9.9	74	5.1	8.7	22	78	6.9	13	7.6
12	4.1	125	1440	9.9	20	6.1	13	14	355	5.6	17	7.3
13	3.6	24	1450	9.9	15	6.0	12	11	316	5.0	8.1	7.0
14	5.3	13	1330	9.9	13	5.2	9.5	10	44	4.9	7.0	6.8
15	7.4	11	314	9.8	12	5.0	8.1	9.3	15	4.5	6.5	6.8
16	5.7	10	44	9.9	11	5.0	7.7	9.1	29	6.1	5.8	6.7
17	5.4	88	21	15	11	4.8	7.5	36	79	7.3	3.3	6.7
18	5.8	44	17	17	10	5.7	7.5	108	30	7.1	1.9	6.9
19	8.4	17	15	13	9.9	7.5	16	145	23	7.1	1.8	6.9
20	9.8	12	15	12	9.6	4.9	101	318	16	7.0	1.5	7.7
21	6.6	8.5	14	11	9.4	3.9	24	346	14	6.9	1.4	17
22	11	7.8	13	10	9.0	3.4	13	104	12	8.6	1.3	11
23	11	8.2	13	9.4	8.9	3.4	10	16	11	7.9	1.4	9.5
24	6.8	125	13	9.1	8.9	3.2	9.1	12	10	7.3	3.1	9.1
25	5.6	267	12	9.1	8.7	3.3	8.6	28	10	7.2	3.0	7.7
26	5.0	62	11	9.1	8.9	5.1	8.4	42	11	6.9	.66	7.4
27	4.6	29	12	8.6	8.7	3.9	9.0	18	46	6.8	.42	7.2
28	9.0	31	12	8.4	7.9	3.5	13	14	19	6.6	2.0	7.6
29	19	19	12	8.8	---	3.3	10	12	12	6.5	6.5	8.1
30	59	15	12	9.1	---	2.9	9.9	11	10	6.5	6.6	7.6
31	50	---	12	8.9	---	2.8	---	61	---	6.4	6.6	---
TOTAL	297.5	1252.6	6829	319.3	1237.7	169.2	403.5	1495.2	2713	223.2	165.58	266.1
MEAN	9.60	41.8	220	10.3	44.2	5.46	13.4	48.2	90.4	7.20	5.34	8.87
MAX	59	267	1450	17	392	8.1	101	346	383	11	17	19
MIN	3.6	5.0	11	8.4	7.9	2.8	2.5	9.1	10	4.5	.42	6.7
AC-FT	590	2480	13550	633	2450	336	800	2970	5380	443	328	528

CAL YR 1985 TOTAL 25842.3 MEAN 70.8 MAX 1450 MIN 2.2 AC-FT 51260
WTR YR 1986 TOTAL 15371.88 MEAN 42.1 MAX 1450 MIN .42 AC-FT 30490

08022500 SABINE RIVER AT LOGANSPORT, LA

LOCATION.--Lat 31°58'20", long 94°00'22", De Soto Parish, Louisiana-Shelby County, Texas State line at Logansport, Hydrologic Unit 12010004, just upstream from bridge on U.S. Highway 84, 3 mi upstream from Bayou Castor, 111 mi upstream from Toledo Bend Dam, and at mile 267.1.

DRAINAGE AREA.--4,842 mi^2.

PERIOD OF RECORD.--Gage-height record March 1968 to current year. Discharge record July 1903 to February 1968.

REVISED RECORDS.--WSP 1312: 1903-6 (monthly and annual means). WSP 1732: 1929(M), 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 147.72 ft above National Geodetic Vertical Datum of 1929. July 1, 1903, to Sept. 30, 1956, nonrecording gage. Oct. 1, 1956, to Jan. 16, 1964, water-stage recorder 4,600 ft upstream. Jan. 16, 1964, to Dec. 10, 1968, water-stage recorder 4,700 ft upstream. All gages to present datum except prior to Dec. 31, 1906, when datum was 2.00 ft lower.

REMARKS.--Station discontinued as daily streamflow station Mar. 1, 1968, due to backwater from storage in Toledo Bend Reservoir (station 08025350). Ten major reservoirs, with a combined capacity of 1,824,000 acre-ft, largely regulated the flow. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08018500. Numerous diversions above station for oilfield operations, municipal, and industrial uses.

AVERAGE DISCHARGE.--64 years (water years 1904-67), 3,208 ft^3/s (2,324,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height (1968-81), 32.50 ft Apr. 20, 1969; minimum since initial filling of Toledo Bend Reservoir in June 1968, 17.97 ft Nov. 29, 1977. Maximum discharge (1903-67), 92,000 ft^3/s Apr. 8, 1945 (gage height, 44.07 ft, from floodmark); minimum, 16 ft^3/s Sept. 26-28, Oct. 3, 4, 1939.
Maximum stage since at least 1884, that of Apr. 8, 1945.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1884 reached a stage of 39.4 ft, present site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 29.97 ft June 12 at time unknown; minimum, 19.45 ft Oct. 14.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.24	21.84	24.12	---		---	21.81	23.86	25.10		---	21.72
2	20.18	21.62	24.15	---		---	21.98	23.96	25.15		---	21.64
3	20.14	21.62	24.30	---		---	22.08	23.98	25.22		---	21.71
4	20.46	21.61	24.28	---		---	22.00	24.00	25.32		---	21.65
5	20.18	21.61	24.23	---		---	21.82	24.15	25.50		---	21.47
6	20.21	21.60	24.20	---		---	21.78	24.09	25.58		---	21.63
7	19.88	21.58	24.05	---		---	21.92	24.00	25.79		22.94	21.52
8	19.72	21.82	23.84	---		---	21.98	23.98	25.97		22.83	21.54
9	19.70	21.76	23.70	---		---	22.10	23.90	26.63		22.88	21.60
10	19.70	21.71	23.67	---		---	22.27	23.94	---		22.80	21.57
11	19.70	21.65	---	---		---	22.36	23.93	---		22.74	21.48
12	19.73	21.77	24.15	---		---	22.37	23.90	---		22.68	21.50
13	19.68	22.01	24.60	---		---	22.48	23.91	29.00		22.64	21.52
14	19.52	22.10	25.15	---		---	22.32	24.22	28.15		22.70	21.52
15	19.59	21.87	---	---		---	22.40	23.95	27.43		22.73	21.58
16	19.63	21.93	---	---		---	22.50	23.95	26.82		22.54	21.54
17	19.69	22.11	---	---		---	22.66	23.95	26.37		22.48	21.54
18	19.63	22.15	---	---		---	22.67	24.10	26.12		22.32	21.60
19	19.77	21.83	---	---		---	23.15	24.32	25.93		22.30	21.54
20	19.78	21.79	---	---		---	23.20	24.54	25.81		22.23	21.49
21	19.72	21.90	---	---		---	23.30	24.82	25.71		22.18	21.58
22	20.27	21.95	---	---		---	23.45	24.99	25.59		22.19	21.62
23	20.24	21.95	---	22.04		---	23.63	24.93	25.49		22.18	21.57
24	20.16	22.38	---	21.91		---	23.73	25.00	---		22.11	21.53
25	20.00	23.00	---	21.67		---	23.75	25.02	---		22.09	21.52
26	19.92	23.52	---	21.27		21.76	23.80	24.98	---		22.12	21.44
27	20.48	---	---	21.45		21.73	23.96	25.09	---		22.02	21.45
28	20.15	---	---	21.42		21.80	23.70	25.02	---		21.88	21.43
29	19.82	---	---	---		21.95	23.77	25.00	---		21.78	21.50
30	21.20	---	---	---		21.81	23.89	25.05	---		21.80	21.45
31	21.84	---	---	---		21.87	---	25.12	---		21.78	---
MAX	21.84	---	---	---		---	23.96	25.12	---		---	21.72
MIN	19.52	---	---	---		---	21.78	23.86	---		---	21.43

08025350 TOLEDO BEND RESERVOIR NEAR BURKEVILLE, TX

LOCATION.--Lat 31°10'25", long 93°33'57", Newton County, Hydrologic Unit 12010004, in powerhouse at right end of Toledo Bend Dam on Sabine River, 15 mi northeast of Burkeville, and at mile 156.5.

DRAINAGE AREA.--7,178 mi².

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Sabine River Authority). Prior to July 20, 1967, nonrecording gage at same site and datum. July 20, 1967, to June 30, 1973, recording gage at right end of spillway 1.6 mi north of present site and at same datum.

REMARKS.--The reservoir is formed by a rolled earthfill dam. Closure of embankment completed and deliberate impoundment was begun Oct. 3, 1966. The reservoir is operated for hydro-electric power generation and water conservation. Releases during high inflow periods are controlled by eleven 40- by 28-foot tainter gates. An 8.33- by 12-foot gated conduit through the dam is used for low-flow releases. Two additional 20-inch-diameter conduits, which bypass the larger conduit, may also be used for low-flow releases. Water for turbines is admitted through four 16.75- by 29-foot penstocks and controlled by vertically operated caterpillar-type gates. The capacity table is based on Geological Survey topographic maps. For statement regarding regulation by upstream reservoirs, see station 08020000. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	185.0	-
Design flood	175.3	5,102,000
Top of gates	173.0	4,660,000
Top of power drawdown storage	172.0	4,476,000
Top of power head storage	162.2	2,922,000
Crest of spillway (controlled)	145.0	1,162,000
Lowest gated outlet (invert)	100.0	4,090

COOPERATION.--Capacity table furnished by the Sabine River Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 4,739,000 acre-ft Mar. 21, 1969 (elevation, 173.42 ft); minimum since initial filling of reservoir in June 1968, 3,433,000 acre-ft Nov. 27, 1977 (elevation, 165.74 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,668,000 acre-ft June 11 at 2400 hours to June 12 at 1200 hours (elevation, 173.04 ft); minimum contents, 3,657,000 acre-ft Oct. 13 (elevation, 167.18 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

167.0	3,628,000	170.0	4,123,000	173.0	4,660,000
168.0	3,788,000	171.0	4,297,000	174.0	4,849,000
169.0	3,953,000	172.0	4,476,000		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3718000	3932000	4294000	4455000	3882000	3945000	4007000	4187000	4513000	4559000	4250000	4018000
2	3702000	3970000	4269000	4449000	3887000	3953000	4004000	4210000	4518000	4577000	4247000	4006000
3	3692000	3965000	4250000	4446000	3884000	3960000	4001000	4222000	4516000	4577000	4259000	4001000
4	3724000	3972000	4290000	4485000	3997000	3953000	4007000	4227000	4500000	4568000	4241000	3992000
5	3684000	3977000	4280000	4426000	4019000	3953000	4021000	4231000	4528000	4550000	4213000	3984000
6	3676000	3977000	4271000	4408000	4036000	3953000	4021000	4245000	4542000	4553000	4189000	3987000
7	3660000	3984000	4255000	4428000	4033000	3953000	4019000	4254000	4548000	4553000	4189000	3990000
8	3673000	3956000	4262000	4408000	4052000	3953000	4050000	4262000	4579000	4531000	4173000	3987000
9	3673000	3968000	4254000	4385000	4055000	3948000	4038000	4280000	4610000	4502000	4175000	3975000
10	3673000	3972000	4231000	4354000	4060000	3963000	4038000	4288000	4623000	4487000	4187000	3970000
11	3660000	3977000	4318000	4329000	4035000	3953000	4021000	4297000	4668000	4458000	4194000	3970000
12	3660000	3973000	4351000	4315000	4041000	3980000	4055000	4311000	4666000	4458000	4191000	3985000
13	3665000	3985000	4421000	4276000	4004000	4001000	4045000	4313000	4654000	4471000	4180000	3979000
14	3682000	3987000	4390000	4248000	4028000	3997000	4089000	4280000	4638000	4471000	4151000	3975000
15	3692000	4021000	4404000	4213000	3990000	3999000	4077000	4308000	4623000	4463000	4140000	3975000
16	3682000	4013000	4422000	4189000	3999000	4002000	4075000	4290000	4610000	4460000	4153000	3973000
17	3676000	4004000	4437000	4165000	4004000	3977000	4069000	4333000	4625000	4446000	4137000	3968000
18	3673000	4007000	4463000	4140000	3987000	4014000	4069000	4383000	4623000	4438000	4137000	3955000
19	3698000	4065000	4449000	4109000	3994000	4055000	4106000	4365000	4608000	4422000	4120000	3956000
20	3703000	4038000	4449000	4096000	3990000	4047000	4140000	4365000	4592000	4417000	4108000	3960000
21	3705000	4031000	4455000	4089000	3992000	4013000	4167000	4352000	4583000	4404000	4092000	3960000
22	3702000	4023000	4458000	4092000	3987000	4004000	4172000	4336000	4557000	4388000	4081000	3956000
23	3708000	4024000	4476000	4058000	3977000	4007000	4160000	4369000	4546000	4370000	4087000	3953000
24	3724000	4062000	4493000	4021000	3977000	4007000	4158000	4385000	4531000	4352000	4096000	3946000
25	3727000	4086000	4467000	4016000	3970000	4002000	4153000	4422000	4496000	4336000	4089000	3943000
26	3734000	4106000	4451000	4023000	3970000	4014000	4153000	4458000	4419000	4329000	4064000	3945000
27	3793000	4177000	4462000	3937000	3984000	4019000	4161000	4476000	4494000	4327000	4055000	3945000
28	3800000	4201000	4462000	3920000	3970000	4019000	4179000	4476000	4507000	4313000	4047000	3941000
29	3862000	4215000	4453000	3917000	---	4011000	4170000	4472000	4526000	4297000	4038000	3935000
30	3913000	4227000	4442000	3890000	---	4007000	4167000	4476000	4540000	4278000	4030000	3927000
31	3895000	---	4462000	3877000	---	4004000	---	4494000	---	4262000	4021000	---
MAX	3913000	4227000	4493000	4485000	4060000	4055000	4179000	4494000	4668000	4577000	4259000	4018000
MIN	3660000	3932000	4231000	3877000	3882000	3945000	4001000	4187000	4419000	4262000	4021000	3927000
(†)	168.65	170.60	171.92	168.54	169.10	169.30	170.25	172.10	172.35	170.80	169.40	168.84
(ϕ)	+171000	+332000	+235000	-585000	+93000	+34000	+163000	+327000	+46000	-278000	-241000	-94000

CAL YR 1985	MAX	4520000	MIN	3660000	(ϕ)	+509000
WTR YR 1986	MAX	4668000	MIN	3660000	(ϕ)	+203000

(†) Elevation, in feet, at end of month.
(ϕ) Change in contents, in acre-feet.

08025360 SABINE RIVER AT TOLEDO BEND RESERVOIR NEAR BURKEVILLE, TX

LOCATION.--Lat 31°10'25", long 93°33'57", Newton County, Hydrologic Unit 12010005, in powerhouse at right end of Toledo Bend Dam, 10 mi upstream from Sabine River near Burkeville gage, and at mile 156.5.

DRAINAGE AREA.--7,178 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorders. Datum of gages is at National Geodetic Vertical Datum of 1929 (levels by Sabine River Authority).

REMARKS.--No estimated daily discharges. Records fair. Daily discharges are a combination of releases from various outlets at the dam. Discharges are result of releases through turbines and are computed using scroll case differential pressure relationships. Taintor gate releases, low-flow sluiceway releases, bypass gate releases, and turbine leakages are all based on discharge measurements and operation logs.

AVERAGE DISCHARGE.--15 years, 5,243 ft^3/s (3,799,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 67,000 ft^3/s Jan. 28, 1974; minimum daily (estimated), 30 ft^3/s Oct. 1-4, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 37,200 ft^3/s June 12; minimum daily, 174 ft^3/s on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	808	204	5120	6740	204	8080	204	6890	204	14200	5010	3870
2	793	204	7290	6660	204	7410	204	2790	7020	14300	204	3580
3	772	204	7130	6810	204	4820	204	204	8420	14400	204	3670
4	1410	204	7160	7220	204	2600	2260	204	10600	14300	5410	3610
5	204	204	7070	7200	9130	2560	204	2530	10300	14300	4970	3700
6	204	204	7100	7210	14900	2540	204	2530	10100	14300	4710	174
7	826	204	7360	7170	12100	204	204	2500	11800	12200	4780	174
8	807	204	7490	6300	11000	204	204	2570	15700	14200	4650	924
9	791	204	7510	9450	10400	204	1580	2560	21000	14300	204	853
10	863	204	7430	14000	10700	204	204	204	22600	14200	185	781
11	1470	257	7430	14000	11000	204	204	204	28700	11800	3780	771
12	204	301	7690	14200	10900	204	204	2570	37200	204	3550	751
13	204	297	7480	14500	10400	204	204	2370	33900	204	3690	174
14	830	262	7580	14500	10900	204	204	2320	27000	2790	3600	174
15	795	263	7610	14500	11100	204	204	2340	22600	2880	3510	864
16	800	204	7490	14500	11000	204	204	2560	16600	2790	3730	788
17	930	204	7180	14500	10900	1320	1410	204	13900	3790	3740	810
18	1420	204	6930	14600	10900	204	1400	204	13800	6200	3380	1020
19	204	204	6320	14600	10800	204	204	2630	14100	8310	3480	776
20	204	190	6480	7830	11300	204	204	2760	14200	204	3620	174
21	767	174	6840	6660	10400	204	204	2300	14100	5740	3740	174
22	822	174	6850	6190	10700	204	2640	2510	14100	5870	3780	736
23	817	174	6870	10600	10600	204	6540	2440	14000	5790	174	602
24	784	174	6820	14200	11100	204	7210	204	14000	5950	174	1310
25	1570	174	6790	14400	10900	204	6710	204	14000	6400	4030	690
26	204	174	6820	14300	10800	204	4510	2320	13900	6150	3910	781
27	204	174	6750	14500	9160	204	6630	2570	12300	204	3530	174
28	204	174	6750	10500	10900	204	6800	7160	9630	5860	3560	174
29	204	174	6860	10300	---	204	6850	7490	9510	5840	3680	722
30	204	174	6810	10400	---	204	6800	7270	10700	6100	174	740
31	204	---	6790	6470	---	204	---	204	---	6490	174	---
TOTAL	20523	6166	217800	335010	262806	34226	64808	75816	465984	240266	93333	33741
MEAN	662	206	7026	10810	9386	1104	2160	2446	15530	7751	3011	1125
MAX	1570	301	7690	14600	14900	8080	7210	7490	37200	14400	5410	3870
MIN	204	174	5120	6190	204	204	204	204	204	204	174	174
AC-FT	40710	12230	432000	664500	521300	67890	128500	150400	924300	476600	185100	66930

CAL YR 1985 TOTAL 1479862 MEAN 4054 MAX 14600 MIN 174 AC-FT 2935000
WTR YR 1986 TOTAL 1850479 MEAN 5070 MAX 37200 MIN 174 AC-FT 3670000

08025360 SABINE RIVER AT TOLEDO BEND RESERVOIR NEAR BURKEVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1967 to September 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 20...	1424	182	6.80	17.5	10.8	112	1.0	35	10
JAN 07...	1615	172	7.50	11.0	10.0	89	0.8	33	13
FEB 20...	1328	177	7.20	12.0	11.2	104	0.6	35	17
APR 02...	1515	176	6.60	12.5	10.6	99	1.0	36	13
MAY 14...	1605	180	6.40	13.0	11.4	108	1.0	34	9
AUG 27...	1405	177	7.60	29.0	7.6	--	0.7	36	14

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 20...	7.9	3.6	20	2	4.0	25	18	25	0.1
JAN 07...	7.6	3.5	20	2	3.1	20	19	28	0.1
FEB 20...	8.0	3.6	19	1	3.2	18	16	28	0.1
APR 02...	8.4	3.6	19	1	3.1	23	15	28	0.1
MAY 14...	7.9	3.5	18	1	3.4	25	19	23	0.1
AUG 27...	8.5	3.6	18	1	3.1	22	18	23	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
NOV 20...	5.8	99	0.01	<0.10	0.12	0.38	0.5	0.02
JAN 07...	5.4	99	<0.01	0.10	0.01	0.39	0.4	<0.01
FEB 20...	5.3	94	<0.01	0.10	0.02	0.38	0.4	<0.01
APR 02...	5.1	96	<0.01	<0.10	0.02	0.38	0.4	0.01
MAY 14...	5.2	95	<0.01	0.20	0.04	0.36	0.4	0.01
AUG 27...	3.5	91	<0.01	<0.10	<0.01	--	0.3	0.01

08026000 SABINE RIVER NEAR BURKEVILLE, TX

LOCATION.--Lat 31°03'50", long 93°31'10", Newton County, Texas-Vernon Parish, Lousiana State line, Hydrologic Unit 12010005, near left edge of low-water channel at downstream side of bridge on State Highway 63, about 200 ft downstream from Pearl Creek, 10 mi northeast of Burkeville, 16 mi downstream from Bayou Toro, and at mile 139.7.

DRAINAGE AREA.--7,482 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1955 to current year. Published as "below Toledo Bend near Burkeville" for period 1955-75.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 70.59 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 23, 1958, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good except those for August and September, which are fair. Flow is regulated by Toledo Bend Reservoir (station 080 5350) 16.8 mi upstream, capacity, 4,660,000 acre-ft.

AVERAGE DISCHARGE.--11 years (water years 1956-66) prior to completion of Toledo Bend Reservoir, 4,653 ft³/s (3,371,000 acre-ft/yr); 20 years (water years 1967-86) regulated, 5,019 ft³/s (3,636,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 80,600 ft³/s Jan. 29, 1974 (gage height, 34.20 ft); minimum daily, 38 ft³/s Sept. 14, 15, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1860, 35.9 ft in May 1884, from information by local resident. Flood of Apr. 15, 1945, reached a stage of 35.8 ft, and flood of May 23, 1953, reached a stage of 35.3 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 35,000 ft³/s June 13 at 1800 hours (gage height, 27.52 ft); minimum daily, 295 ft³/s Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1040	3200	2780	6870	2250	10800	646	6910	760	14000	5640	2160
2	963	2010	7170	6840	735	6460	454	4340	4650	14700	2310	3660
3	886	1000	7200	6770	666	6890	443	1960	7040	14900	475	3510
4	1140	794	7030	7120	1740	2630	1240	564	10700	14900	2720	3440
5	838	698	6950	7160	7590	3720	1580	1150	10500	14800	5040	3580
6	295	630	6920	7140	17800	3110	506	3100	10700	14800	4950	1620
7	609	580	6980	7170	17000	1180	449	2380	11700	12900	4790	390
8	839	543	7250	6570	11600	676	431	1640	18100	14200	4790	652
9	867	523	7270	7440	11200	643	1100	2370	21800	14900	2560	954
10	895	503	7220	13500	11200	631	936	1660	25000	14800	496	920
11	1120	523	7570	14700	11600	614	453	346	24700	14300	2120	904
12	962	567	9910	14900	11400	1020	481	956	32200	3310	3600	790
13	297	581	11700	15200	11400	1370	518	2220	34500	656	3570	694
14	626	552	10200	15200	10700	1180	472	2150	31800	1440	3550	358
15	1280	548	9070	15200	11100	916	444	2130	28200	2650	3470	623
16	1030	680	7970	15200	11500	801	416	2230	22400	2730	3540	917
17	1020	792	7540	15200	11400	1230	1250	1450	17400	3320	3650	856
18	1300	710	7180	15200	11400	1320	1560	499	15300	5260	3530	1000
19	898	573	7040	15100	11200	788	790	1150	15200	6270	3200	990
20	449	501	6110	13100	11500	1070	846	2450	15200	4600	3670	591
21	709	412	6860	7030	11100	812	928	2410	15000	3470	3750	398
22	959	390	6930	6840	10900	658	1440	2220	15100	5730	2900	851
23	1110	380	6960	8780	11000	601	5740	2290	15000	5670	2430	925
24	1360	413	6910	14400	11200	570	7210	1370	14800	5720	437	1140
25	1340	689	6870	15200	11300	549	6830	304	14700	6090	1950	1050
26	1230	934	6890	15300	11300	534	5240	897	14500	6130	3740	803
27	416	804	6910	15400	10700	518	6540	2490	14400	2930	3360	657
28	1220	956	6930	13100	10900	500	6720	4690	9830	3630	3650	310
29	2670	938	6940	8830	---	488	6830	6890	9770	5680	3310	567
30	4280	754	6890	12200	---	477	6790	7460	9630	5940	1980	849
31	3970	---	6930	8450	---	730	---	3160	---	6130	417	---
TOTAL	36618	23178	227080	351110	283781	53486	69283	75836	490080	246756	95595	36159
MEAN	1181	773	7325	11330	10140	1725	2309	2446	16340	7960	3084	1205
MAX	4280	3200	11700	15400	17800	10800	7210	7460	34500	14900	5640	3660
MIN	295	380	2780	6570	665	477	416	304	760	656	417	310
AC-FT	72630	45970	450400	696400	562900	106100	137400	150400	972100	489400	189600	71720

CAL YR 1985 TOTAL 1609916 MEAN 4411 MAX 15300 MIN 238 AC-FT 3193000
WTR YR 1986 TOTAL 1988962 MEAN 5449 MAX 34500 MIN 295 AC-FT 3945000

08026000 SABINE RIVER NEAR BURKEVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: May 1968 to September 1986. Pesticide analyses: October 1970 to September 1981.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1968 to September 1986.
WATER TEMPERATURES: May 1968 to September 1986.

INSTRUMENTATION.--From April through September 1986, specific conductance and water temperature were recorded continuously at this station.

REMARKS.--Due to malfunction of conductivity probe, specific conductance will not be published this water year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 352 microsiemens Mar. 15, 16, 1973; minimum, 30 microsiemens Dec. 4, 1983.
WATER TEMPERATURES: Maximum, 32.0°C Aug. 20, 1975, and May 28, 1981; minimum, 4.5°C Feb. 1, 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)
NOV											
20...	1050	508	127	6.70	18.5	6	11	9.6	101	1.1	25
JAN											
07...	1245	7160	172	7.20	11.0	7	2.4	10.0	90	0.6	33
FEB											
20...	1050	9800	173	7.20	12.5	15	2.5	12.0	113	0.7	34
APR											
02...	1055	454	159	6.60	18.0	30	4.6	8.8	92	1.2	33
MAY											
14...	1125	1030	170	6.80	23.5	5	2.2	9.0	106	0.7	34
AUG											
27...	1110	1520	160	6.60	28.0	10	7.8	7.3	--	0.9	33

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
NOV											
20...	9	6.0	2.5	14	1	3.3	16	19	16	<0.1	13
JAN											
07...	12	7.5	3.4	19	1	3.1	21	16	27	0.1	5.7
FEB											
20...	14	8.0	3.5	19	1	3.1	20	19	26	0.1	6.1
APR											
02...	8	7.8	3.2	18	1	2.7	25	19	21	0.1	9.8
MAY											
14...	13	7.8	3.5	18	1	3.1	21	21	23	0.1	3.8
AUG											
27...	11	7.9	3.3	17	1	3.0	22	18	21	0.1	4.3

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)
NOV											
20...	84	7	1	0.02	<0.10	0.08	0.42	0.5	0.03	9.9	<1
JAN											
07...	94	--	7	<0.01	0.10	0.03	0.47	0.5	0.05	4.3	--
FEB											
20...	97	1	1	<0.01	0.10	0.02	0.48	0.5	0.05	7.1	--
APR											
02...	97	8	2	0.01	<0.10	0.02	0.38	0.4	0.02	8.8	--
MAY											
14...	93	<1	1	<0.01	<0.10	0.04	0.36	0.4	0.01	5.7	--
AUG											
27...	88	6	4	<0.01	<0.10	0.04	--	<0.2	0.03	6.8	<1

08026000 SABINE RIVER NEAR BURKEVILLE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 20...	54	<1	<10	1	290	<1	180	<0.1	<1	<1	48
JAN 07...	--	--	--	--	--	--	--	--	--	--	--
FEB 20...	--	--	--	--	--	--	--	--	--	--	--
APR 02...	--	--	--	--	--	--	--	--	--	--	--
MAY 14...	--	--	--	--	--	--	--	--	--	--	--
AUG 27...	53	2	<10	5	51	<5	20	<0.1	<1	<1	28

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
MONTH												

08026000 SABINE RIVER NEAR BURKEVILLE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1							---	---	---	---	---	---
2							---	---	---	---	---	---
3							---	---	---	---	---	---
4							20.5	10.5	16.0	---	---	---
5							16.5	10.5	14.0	---	---	---
6							20.0	15.0	17.5	---	---	---
7							21.5	15.0	18.5	---	---	---
8							22.5	15.5	20.5	---	---	---
9							22.0	15.5	19.5	---	---	---
10							18.0	17.5	17.5	---	---	---
11							17.5	16.5	17.0	---	---	---
12							17.5	17.0	17.5	---	---	---
13							---	---	---	---	---	---
14							---	---	---	---	---	---
15							---	---	---	---	---	---
16							---	---	---	---	---	---
17							---	---	---	---	---	---
18							---	---	---	---	---	---
19							---	---	---	---	---	---
20							---	---	---	---	---	---
21							---	---	---	25.0	20.0	22.5
22							---	---	---	25.0	20.0	22.5
23							---	---	---	25.0	20.0	22.0
24							---	---	---	24.0	20.0	21.5
25							---	---	---	24.0	20.0	22.0
26							---	---	---	24.0	20.5	23.0
27							---	---	---	24.0	20.0	22.5
28							---	---	---	23.5	20.0	22.0
29							---	---	---	25.5	20.0	23.0
30							---	---	---	25.5	20.5	24.0
31							---	---	---	23.5	20.0	20.5
MONTH							22.5	10.5	17.5	25.5	20.0	22.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	25.0	20.0	22.0	27.5	26.5	27.0				---	---	---
2	25.5	20.0	23.5	28.0	26.5	27.0				---	---	---
3	26.0	20.5	23.5	28.0	27.5	28.0				---	---	---
4	26.0	20.5	24.5	28.0	27.5	28.0				---	---	---
5	21.0	20.5	20.5	28.0	27.5	27.5				---	---	---
6	24.0	20.0	21.0	27.5	27.0	27.5				---	---	---
7	25.0	20.0	21.5	28.5	26.0	27.5				---	---	---
8	24.0	20.0	22.5	28.5	27.5	28.0				---	---	---
9	23.5	22.5	23.0	28.0	27.5	27.5				28.5	20.5	26.0
10	24.0	23.0	23.5	27.5	27.0	27.0				28.5	20.5	25.5
11	24.0	20.0	23.0	27.0	26.5	27.0				28.5	21.0	25.5
12	24.0	20.0	22.5	27.0	20.5	25.0				28.0	20.5	26.0
13	25.0	20.0	21.0	28.0	25.5	26.5				27.5	20.5	24.5
14	26.0	25.0	25.5	28.5	25.0	27.0				27.5	25.5	26.5
15	27.0	26.0	26.0	---	---	---				27.0	23.5	25.5
16	26.5	25.5	26.0	---	---	---				28.5	20.0	25.0
17	26.5	25.0	25.5	---	---	---				28.0	20.5	25.0
18	27.0	25.5	26.5	---	---	---				27.0	20.0	23.5
19	28.0	27.0	27.5	---	---	---				27.0	20.5	25.5
20	28.0	27.0	27.5	---	---	---				26.0	20.0	24.0
21	28.0	27.5	27.5	---	---	---				26.5	20.0	24.0
22	28.5	27.0	28.0	---	---	---				24.0	20.0	22.5
23	28.5	28.0	28.0	---	---	---				27.0	20.0	23.5
24	29.0	25.0	27.0	---	---	---				26.5	20.0	24.0
25	29.0	25.0	28.5	---	---	---				26.5	20.5	25.5
26	27.5	20.0	25.0	---	---	---				26.5	20.0	24.0
27	25.0	20.0	22.5	---	---	---				27.0	20.0	24.5
28	27.0	20.5	24.0	---	---	---				27.0	26.0	26.5
29	27.0	25.5	26.0	---	---	---				26.5	20.5	24.5
30	27.0	25.5	26.5	---	---	---				27.0	20.0	24.0
31	---	---	---	---	---	---				---	---	---
MONTH	29.0	20.0	24.5	28.5	20.5	27.0				28.5	20.0	25.0

08028500 SABINE RIVER NEAR BON WIER, TX

LOCATION.--Lat 30°44'49", long 93°36'30", Beauregard Parish, Louisiana-Newton County, Texas State line, Hydrologic Unit 12010005, near left bank at downstream side of bridge on U.S. Highway 190, 0.7 mi upstream from Quicksand Creek, 0.8 mi upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 2.0 mi east of Bon Wier, 2.4 mi upstream from Caney Creek, and at mile 97.7.

DRAINAGE AREA.--8,229 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to current year. Monthly discharge only for some periods, published in WSP 1312. Gage-height records collected in this vicinity since 1913 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1342: 1953. WSP 1442: 1924, 1926-27(M), 1929(M), 1939. WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 43.42 ft above National Geodetic Vertical Datum of 1929. Prior to July 8, 1931, nonrecording gage at site 0.8 mi downstream at datum 3.00 ft higher. July 8, 1931, to Oct. 15, 1958, nonrecording gage at present site at datum 3.00 ft higher. Oct. 16, 1958, to Sept. 30, 1975, water-stage recorder at present site at datum 3.00 ft higher.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated by Toledo Bend Reservoir (station 08025350) 58.8 mi upstream. Gage-height telemeter at station.

AVERAGE DISCHARGE.--43 years (water years 1924-66) prior to completion of Toledo Bend Reservoir, 6,846 ft^3/s (4,960,000 acre-ft/yr); 20 years (water years 1967-86) regulated, 6,049 ft^3/s (4,382,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 115,000 ft^3/s May 19, 1953 (gage height, 28.70 ft); minimum daily, 134 ft^3/s Nov. 9, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1833, 33.5 ft Apr. 23 or 24, 1913, from information by Gulf, Colorado, and Santa Fe Railway Co. and local residents. Flood in May 1884 reached a stage of 29 ft. Floods occurring about 1844 and 1860 were higher than flood in May 1884, from information by local residents. All flood data referenced to current datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 31,500 ft^3/s June 14 at 1700 hours (gage height, 22.92 ft); minimum daily, 768 ft^3/s Apr. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1400	12200	2100	7450	e10000	11400	999	7090	4720	11800	6630	1010
2	e1550	10700	6130	7420	e8000	8800	1020	7090	2660	14300	5830	2800
3	e1450	e8000	8590	7350	e4000	7730	827	5030	5830	14900	2510	4210
4	e1350	e5100	e8240	7360	e3500	6040	787	e2670	9240	15100	1080	4290
5	e1500	3300	7720	7560	e5000	3640	1600	1520	11200	15200	3590	4170
6	e1200	2750	7490	7560	e8000	3990	1750	2160	12100	15100	5370	4220
7	e950	2630	7410	7600	e17500	3590	914	e3480	12500	14900	5330	2130
8	e842	2380	7530	7570	e16400	1770	801	e3060	15200	13300	5270	1050
9	1120	2260	7650	7040	13100	1300	768	e3090	23000	14500	5210	1140
10	1120	2140	7650	9540	e12200	1210	1290	2950	24600	14900	2660	1430
11	1140	2040	8030	13400	e12000	1170	e1220	1990	25400	14900	1240	1400
12	1340	2000	12900	14200	e12000	1450	e910	992	26200	12200	3000	1590
13	e1150	2050	16900	14400	12000	2880	1120	1670	29300	3580	4120	1820
14	e850	1800	16300	14500	11600	2850	1110	2670	31100	1440	4190	1550
15	e1100	1540	14200	14700	11400	2490	932	e2620	30700	2230	4130	1040
16	e1600	1470	12300	14700	11700	2050	838	e2750	28300	3200	3990	1130
17	e2000	1620	9980	14700	11900	1740	770	e2800	e23600	3280	4030	1400
18	e1800	1690	8880	14700	e11800	2120	1370	e2140	19600	3930	4090	1410
19	1750	1600	8240	14700	11700	1950	1810	1280	17300	5860	3940	1510
20	1790	1390	7600	14700	11600	1520	2060	1880	16400	7350	3700	1450
21	1320	1240	7310	e11100	11600	1660	2880	e2910	16000	3880	3990	1150
22	1440	1110	7590	8070	11100	1390	2190	2910	15900	4500	4060	974
23	2060	1080	7610	7600	11200	e1200	2660	2750	15700	6230	3590	1590
24	3170	1040	7580	10600	11200	e1080	e6500	e2710	15400	6260	2330	1770
25	3350	1420	7470	14000	11400	e991	7390	e2210	15200	6340	949	1870
26	2630	1860	7390	14600	11400	e947	6840	e1300	15000	6680	2550	1620
27	2250	1850	7420	14700	11200	e926	5910	2320	15100	6640	4050	1360
28	2880	2490	7540	14900	10800	901	6900	e3420	13600	3040	4010	1250
29	8800	2810	7580	11800	---	876	7050	5890	11100	4610	4170	874
30	10000	2360	7560	10700	---	854	7070	7630	10700	6290	3910	981
31	11800	---	7500	e11000	---	836	---	7940	---	6370	2230	---
TOTAL	76702	85920	268390	350220	305300	81351	78286	100922	512650	262610	115749	54189
MEAN	2474	2864	8658	11300	10900	2624	2610	3256	17090	8478	3734	1806
MAX	11800	12200	16900	14900	17500	11400	7390	7940	31100	15200	6630	4290
MIN	842	1040	2100	7040	3500	836	768	992	2660	1440	949	874
AC-FT	152100	170400	532400	694700	605600	161400	155300	200200	1017000	521300	229600	107500

CAL YR 1985 TOTAL 2019029 MEAN 5532 MAX 20400 MIN 605 AC-FT 4005000
WTR YR 1986 TOTAL 2292489 MEAN 6281 MAX 31100 MIN 768 AC-FT 4547000

e Estimated.

08028500 SABINE RIVER NEAR BON WIER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1969 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1969 to June 1983.
WATER TEMPERATURES: November 1969 to June 1983.
COLOR: November 1969 to June 1983.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 407 microsiemens Aug. 31, 1978; minimum daily, 34 microsiemens Feb. 3, 1983.
WATER TEMPERATURES: Maximum daily, 33.0°C July 17, 1978, and July 14, 26, 1980; minimum daily, 4.0°C Feb. 2, 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT							
02...	1155	1470	122	21.0	100	18	15
10...	1235	986	175	25.0	50	19	24
17...	1645	1990	95	26.0	110	16	12
21...	1745	1280	202	25.0	100	28	25
NOV							
01...	1055	12300	55	18.0	160	13	6.4
07...	1115	2510	155	18.0	160	20	17
13...	1050	2040	137	21.5	100	17	16
20...	1050	1380	192	21.0	140	25	23
29...	1125	2810	100	17.0	160	16	12
DEC							
05...	1210	7670	175	17.0	40	15	26
10...	1040	7650	176	17.0	40	14	26
17...	1240	9680	152	15.0	40	13	23
24...	1400	7580	174	14.0	40	15	26
31...	1030	7490	174	14.0	40	13	26
JAN							
10...	1245	9610	176	11.0	40	15	24
15...	1210	14800	177	12.0	40	15	24
22...	1005	8020	199	13.5	50	16	27
29...	1515	11000	173	13.0	40	15	22
FEB							
07...	1432	18900	151	13.0	100	21	20
13...	1230	12300	181	11.0	30	16	25
21...	1150	12100	179	14.0	20	15	25
27...	1344	11500	181	15.0	20	16	27
MAR							
05...	1050	3480	204	15.0	40	17	25
13...	1115	2940	114	19.0	140	13	12
20...	1050	1470	148	18.0	120	14	18
26...	1820	941	134	23.0	60	14	15
APR							
01...	1730	1200	152	23.5	50	20	18
10...	1510	1640	181	21.0	60	24	21
17...	0940	768	159	21.0	70	22	18
23...	0640	1790	173	22.0	100	29	19
30...	1815	7060	180	22.0	30	21	25
MAY							
08...	1128	3430	186	24.0	30	21	21
16...	1015	2360	182	24.0	30	20	22
21...	1735	3430	187	24.0	40	22	22
28...	1140	3170	201	24.5	100	27	23
JUN							
03...	1835	6750	183	28.0	40	22	23
12...	0940	25700	156	24.0	40	19	20
19...	1100	17300	158	27.0	50	18	20
27...	1425	15100	166	26.0	40	18	21
JUL							
03...	0932	14700	168	28.0	40	19	22
09...	1205	14600	166	29.0	30	18	21
18...	1605	4790	169	28.0	30	18	21
24...	1940	6450	170	30.0	30	21	21
AUG							
01...	1040	7380	172	31.0	30	18	26
08...	1235	5960	170	30.0	30	18	22
14...	1425	--	174	--	--	18	23
14...	1720	4730	190	29.0	40	21	24
19...	1425	4440	174	30.0	30	18	23
28...	0825	3600	175	28.0	30	19	23
SEP							
06...	1220	4690	175	28.0	30	20	22
10...	1220	1270	167	28.5	40	21	21
19...	1420	1480	179	27.0	50	21	21
25...	0900	1540	213	26.0	120	34	25

08029500 BIG COW CREEK NEAR NEWTON, TX

LOCATION.--Lat 30°49'08", long 93°47'07", Newton County, Hydrologic Unit 12010005, near center of span at downstream side of bridge on State Highway 87, 2.6 mi southwest of Newton, 5.0 mi downstream from Melhomes Creek, and 8.0 mi upstream from White Oak Creek.

DRAINAGE AREA.--128 mi^2.

PERIOD OF RECORD.--April 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 134.69 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 19, 1957, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 1 to Jan. 13, and Sept. 2-6. Records good except for estimated daily discharges, which are poor. No known diversion above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--34 years, 115 ft^3/s, 12.20 in/yr, 83,320 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,200 ft^3/s Apr. 29, 1953 (gage height, 19.45 ft); minimum daily, 10 ft^3/s July 7, 8, 21-23, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1907, 27.5 ft in April 1922, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 30	1800	1,330	14.58	Feb. 5	1100	1,360	14.63
Dec. 12	unknown	*1,810	*15.14				

Minimum discharge, 29 ft^3/s, Aug. 2, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137	510	200	90	62	67	57	71	124	61	31	35
2	67	250	250	88	63	67	57	252	86	56	30	40
3	46	170	200	86	63	68	57	292	60	54	30	50
4	40	150	160	84	568	71	57	117	79	71	68	45
5	36	125	130	82	1220	70	57	76	130	89	83	40
6	34	96	120	80	660	67	56	65	369	58	56	40
7	33	80	110	90	299	65	56	60	253	53	64	59
8	32	70	105	100	171	64	54	57	397	51	48	60
9	32	65	102	90	133	64	52	55	790	48	41	50
10	33	60	100	130	119	64	57	55	545	54	39	41
11	34	58	300	120	114	65	69	60	258	55	55	43
12	34	70	1700	100	104	256	88	74	544	58	238	48
13	34	65	1600	85	97	377	150	57	189	55	163	42
14	41	62	700	78	95	179	123	51	104	47	65	62
15	80	60	300	73	95	115	73	48	84	43	50	55
16	224	70	250	72	94	93	61	51	75	41	47	97
17	165	90	200	71	91	82	54	60	148	40	43	108
18	68	90	180	73	89	82	52	110	280	39	39	63
19	73	80	160	74	85	108	51	153	144	39	36	47
20	140	75	140	71	83	96	579	77	85	40	34	47
21	125	70	130	68	80	75	559	58	74	50	33	79
22	76	65	120	68	77	68	148	51	79	49	33	53
23	97	62	115	67	75	67	85	48	67	52	33	64
24	359	80	110	66	73	66	70	46	59	42	34	70
25	269	250	105	65	72	65	64	51	54	40	43	83
26	102	200	100	65	71	64	60	79	54	38	38	191
27	89	300	110	63	70	64	57	71	237	38	57	141
28	542	600	120	61	68	63	59	66	219	36	73	77
29	1250	400	110	62	---	61	67	76	96	34	55	68
30	1310	250	100	63	---	60	59	55	68	33	48	62
31	1140	---	95	63	---	58	---	55	---	32	39	---
TOTAL	6742	4573	8222	2448	4891	2831	3088	2497	5751	1496	1746	1960
MEAN	217	152	265	79.0	175	91.3	103	80.5	192	48.3	56.3	65.3
MAX	1310	600	1700	130	1220	377	579	292	790	89	238	191
MIN	32	58	95	61	62	58	51	46	54	32	30	35
CFSM	1.70	1.19	2.07	.62	1.37	.71	.80	.63	1.50	.38	.44	.51
IN.	1.96	1.33	2.39	.71	1.42	.82	.90	.73	1.67	.43	.51	.57
AC-FT	13370	9070	16310	4860	9700	5620	6130	4950	11410	2970	3460	3890

CAL YR 1985 TOTAL 49380 MEAN 135 MAX 1700 MIN 27 CFSM 1.05 IN. 14.35 AC-FT 97950
WTR YR 1986 TOTAL 46245 MEAN 127 MAX 1700 MIN 30 CFSM .99 IN. 13.44 AC-FT 91730

08030500 SABINE RIVER NEAR RULIFF, TX
(Radiochemical and national stream-quality accounting network)

LOCATION.--Lat 30°18'13", long 93°44'37", Calcasieu Parish, Louisiana-Newton County, Texas State line, Hydrologic Unit 12010005, at downstream side of bridge on State Highway 12, 2.4 mi north of Ruliff, 4.2 mi upstream from the Kansas City Southern Railway Co. bridge, 4.5 mi downstream from Cypress Creek, and at mile 40.2.

DRAINAGE AREA.--9,329 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1924 to current year.

REVISED RECORDS.--WSP 1282: 1941(M), 1942. WSP 1442: 1925-29, 1937-39, 1943. WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4.08 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 1, 1941, nonrecording gage at Kansas City Southern Railway Co. bridge, 4.2 mi downstream and at datum 2.02 ft lower. Mar. 1, 1941, to Dec. 8, 1948, nonrecording gage at present site and datum.

REMARKS.--No estimated discharge. Records good. Flow is partly regulated by Toledo Bend Reservoir (station 08025350) 116.3 mi upstream.

AVERAGE DISCHARGE.--42 years (water years 1925-66) prior to completion of Toledo Bend Reservoir, 8,422 ft^3/s (6,102,000 acre-ft/yr); 20 years (water years 1967-86) regulated, 7,442 ft^3/s (5,392,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 121,000 ft^3/s May 22, 1953 (gage height, 19.98 ft); minimum, 270 ft^3/s Sept. 27-30, Oct. 1-3, 17-20, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1835, 22.2 ft in May or June 1884 (adjusted to present site and datum on basis of slope of flood of June 8, 9, 1950); flood of Apr. 26-29, 1913, reached a stage of 19.5 ft, present site and datum, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 33,900 ft^3/s June 17 at 2200 hours (gage height, 15.14 ft); minimum daily, 1,110 ft^3/s Oct. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1850	16800	5360	8700	14400	12000	1220	7280	7090	16400	5750	3550
2	1720	17700	4620	8630	13300	12000	1210	7700	7470	14800	6100	2060
3	1970	18000	5330	8580	11100	12100	1350	8680	6510	13400	6250	1780
4	1990	17100	7100	8490	7270	12200	1260	9640	5360	13100	5520	3210
5	1960	14900	8410	8380	5050	11200	1170	9600	6220	13400	3090	3880
6	1940	11600	9040	8360	6020	9490	1240	7650	7550	13900	2430	4150
7	1980	7960	9170	8520	8270	7120	1850	5220	9020	14400	4020	4270
8	1490	5400	9030	8540	10600	5580	1590	4480	11800	14700	4950	3610
9	1110	4030	8830	8530	13200	4310	1260	4200	16300	15000	5290	2040
10	1210	3460	8700	8570	15500	2850	1150	3610	19600	15100	5380	1340
11	1340	3120	8920	8590	16500	2030	1200	3430	23500	14800	4920	1430
12	1350	2950	9820	9290	16000	1770	1590	3260	28400	14600	3050	1490
13	1400	2860	11200	10600	15100	1830	1480	2300	30500	14700	2320	1810
14	1580	2890	13300	12100	14400	2970	1410	1750	30700	14200	3460	2210
15	1320	2800	16000	13600	13800	4470	1550	2490	30900	11200	4050	2190
16	1270	2460	18900	14700	13400	4610	1460	2920	31800	6500	4220	1700
17	2300	2220	21100	15500	13100	3900	1280	3040	32900	4410	4170	1360
18	2880	2290	20600	15900	12800	3100	1160	3190	33500	3880	4060	1490
19	2580	2330	18000	16000	12800	2600	1170	3090	31200	3930	4090	1590
20	2350	2200	15500	16000	12700	2650	2050	2390	27400	4600	4060	1610
21	2470	1920	13200	16000	12600	2290	3590	2050	23700	5590	3880	1660
22	2300	1710	11500	16000	12500	2060	4960	2730	20600	6040	3850	1670
23	2340	1570	10200	15300	12400	1940	5480	3170	18300	5210	3970	1680
24	2610	1460	9470	13600	12300	1720	4850	3140	17000	5340	3850	1940
25	3390	1450	9040	11700	12100	1570	5370	3080	16300	5870	3420	2220
26	4120	1700	8840	10900	11600	1470	6420	3080	16800	6240	2020	2160
27	3920	2730	8860	11600	11800	1410	6940	2420	17600	6400	1680	2120
28	5250	3870	8780	12800	12000	1370	7080	2420	17300	6500	3080	1820
29	9770	4740	8700	14000	---	1330	6970	3310	17500	6100	3770	1670
30	14000	5510	8690	14900	---	1290	7050	4320	17300	4680	4110	1380
31	15800	---	8760	15100	---	1250	---	5950	---	5110	4120	---
TOTAL	101560	169730	334970	369480	342610	136480	86360	131590	580120	300100	124930	65090
MEAN	3276	5658	10810	11920	12240	4403	2879	4245	19340	9681	4030	2170
MAX	15800	18000	21100	16000	16500	12200	7080	9640	33500	16400	6250	4270
MIN	1110	1450	4620	8360	5050	1250	1150	1750	5360	3880	1680	1340
AC-FT	201400	336700	664400	732900	679600	270700	171300	261000	1151000	595200	247800	129100

CAL YR 1985 TOTAL 2507891 MEAN 6871 MAX 27500 MIN 938 AC-FT 4974000
WTR YR 1986 TOTAL 2743020 MEAN 7515 MAX 33500 MIN 1110 AC-FT 5441000

08030500 SABINE RIVER NEAR RULIFF, TX--Continued
(Radiochemical and national stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1945 to September 1946, October 1947 to current year. Chemical and biochemical analyses: February 1968 to current year. Pesticide analyses: January 1968 to May 1982. Radiochemical analyses: October 1969 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1945 to September 1946, October 1947 to current year.
WATER TEMPERATURES: October 1947 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equation developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 779 microsiemens Aug. 31, 1966; minimum, 27 microsiemens Feb. 16, 1984.
WATER TEMPERATURES: Maximum, 36.0°C Aug. 14, 1962; minimum, 1.0°C Jan. 28, 1948.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 219 microsiemens Oct. 10; minimum daily, 43 microsiemens Nov. 1.
WATER TEMPERATURES: Maximum daily, 32.5°C Aug. 3; minimum daily, 8.5°C Feb. 12.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
NOV 19...	1038	2390	156	6.70	22.0	18	7.7	87	1.1	24	56	26
FEB 18...	1440	13000	162	7.00	14.5	15	9.3	91	1.0	84	92	33
MAY 13...	0920	2410	148	6.20	25.0	1.5	8.1	98	1.2	210	120	28
AUG 26...	0940	2110	162	6.90	29.0	9.7	6.2	--	1.1	K7	320	33

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
NOV 19...	4	7.1	1.9	21	2	2.5	22	25	19	<0.1	15
FEB 18...	10	7.7	3.2	19	1	2.9	23	16	26	0.1	6.2
MAY 13...	4	6.9	2.7	16	1	2.7	24	17	17	0.1	7.8
AUG 26...	5	7.8	3.2	16	1	2.8	28	15	18	0.2	6.7

DATE	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)
NOV 19...	100	110	<0.01	0.13	0.08	0.05	0.52	0.6	0.06	0.03	0.04
FEB 18...	102	95	<0.01	<0.10	0.03	0.03	0.57	0.6	0.03	0.01	<0.01
MAY 13...	97	85	<0.01	0.13	0.04	0.06	0.46	0.5	0.03	0.06	0.03
AUG 26...	95	86	<0.01	<0.10	0.04	0.02	0.36	0.4	0.03	0.01	<0.01

DATE	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)
NOV 19...	0.12	31	200	68	140	1	56	<0.5	<1	<1	<3
FEB 18...	--	12	421	98	40	<1	52	<0.5	<1	<1	<3
MAY 13...	0.09	13	85	94	--	--	--	--	--	--	--
AUG 26...	--	33	188	81	40	<1	55	<0.5	3	<1	<3

08030500 SABINE RIVER NEAR RULIFF, TX--Continued
(Radiochemical and national stream-quality accounting network)

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)
NOV 19...	1	500	<1	<4	64	<0.1	<10	10	1	<1	<1
FEB 18...	1	100	2	5	24	<0.1	<10	--	2	<1	<1
MAY 13...	--	--	--	--	--	--	--	--	--	--	--
AUG 26...	4	200	<5	10	47	<0.1	<10	--	5	<1	<1

DATE	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/Y 90)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)	URANIUM DISSOLVED, EXTRACTION (UG/L)
NOV 19...	68	<6	66	<0.4	<0.6	2.5	<0.7	2.3	<0.7	0.04	0.09
FEB 18...	130	<6	25	--	--	--	--	--	--	--	--
MAY 13...	--	--	--	--	--	--	--	--	--	--	--
AUG 26...	130	<6	26	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	101560	101	63	17300	13	3650	13	3500	19
NOV. 1985	169730	79	51	23400	10	4760	11	4830	15
DEC. 1985	334970	129	79	71400	17	15400	16	14200	24
JAN. 1986	369480	170	98	98100	22	22200	19	18900	30
FEB. 1986	342610	159	94	86500	21	19300	18	16800	29
MAR. 1986	136480	155	91	33400	20	7460	18	6490	28
APR. 1986	86360	138	83	19300	18	4220	16	3800	25
MAY 1986	131590	151	89	31700	20	7020	17	6210	27
JUNE 1986	580120	133	81	127000	17	27300	16	25300	25
JULY 1986	300100	161	94	76400	21	17100	18	14900	29
AUG. 1986	124930	169	98	33000	22	7460	19	6370	30
SEPT 1986	65090	157	92	16200	21	3610	18	3160	28
TOTAL	2743020	**	**	634000	**	139000	**	125000	**
WTD.AVG.	7515	143	86	**	19	**	17	**	26

08030500 SABINE RIVER NEAR RULIFF, TX--Continued
(Radiochemical and national stream-quality accounting network)

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131	43	69	163	170	177	122	176	177	143	173	165
2	153	44	74	164	166	178	127	173	171	147	170	169
3	135	45	80	165	163	179	125	161	142	157	173	177
4	121	48	130	167	161	178	127	125	140	159	167	174
5	125	64	145	168	141	177	138	100	167	161	170	164
6	131	71	150	173	114	171	146	97	162	163	175	166
7	130	83	149	173	92	177	152	125	163	162	160	168
8	149	98	154	174	129	172	147	156	117	164	162	166
9	198	110	158	173	131	175	156	159	100	163	163	167
10	219	121	162	169	135	168	160	166	93	162	165	172
11	176	123	163	170	142	177	165	169	91	163	166	177
12	164	120	159	171	151	170	161	161	101	164	159	176
13	163	117	138	172	157	128	148	147	111	165	170	145
14	169	111	94	171	163	100	150	152	118	162	181	134
15	171	121	87	170	167	85	151	155	127	160	163	122
16	156	120	85	167	168	90	138	160	138	155	184	153
17	110	133	88	170	170	93	131	162	142	164	180	146
18	80	152	99	168	169	95	140	164	140	157	175	172
19	86	156	109	169	170	102	143	160	132	160	172	196
20	102	155	124	170	171	96	136	147	128	164	169	158
21	165	142	135	171	171	104	111	143	131	162	168	151
22	159	154	144	170	172	120	98	155	140	164	166	160
23	143	156	156	165	172	131	69	176	148	160	170	148
24	155	159	159	166	173	141	100	174	152	162	166	119
25	151	163	160	170	174	146	69	173	156	160	167	129
26	102	146	161	172	176	136	125	173	154	165	173	115
27	110	137	162	175	176	137	176	160	156	162	175	122
28	107	95	163	176	175	134	180	145	152	168	171	154
29	57	83	163	175	---	130	178	120	146	167	167	157
30	53	65	164	174	---	125	180	185	142	168	160	158
31	47	---	162	169	---	120	---	173	---	169	165	---
MEAN	133	111	134	170	158	139	138	155	138	161	169	156

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	17.0	16.0	12.0	13.0	13.5	22.0	22.0	26.0	28.0	32.0	---
2	19.0	17.0	14.0	11.5	14.0	15.0	22.0	22.0	27.0	28.0	31.0	27.5
3	19.0	16.0	13.0	10.0	14.5	14.0	22.0	20.5	27.0	28.0	32.5	28.5
4	20.0	15.0	13.0	12.0	16.0	14.0	22.0	20.0	27.5	29.0	30.5	28.5
5	20.0	16.0	13.0	12.0	16.5	14.0	23.0	---	27.5	28.5	---	30.0
6	21.0	16.0	13.0	10.0	16.0	15.0	24.0	22.5	27.0	28.5	29.5	29.0
7	20.0	16.0	13.0	11.0	16.0	16.5	23.5	---	26.5	29.0	29.5	28.0
8	21.0	16.0	14.0	9.0	13.0	16.0	24.0	24.5	25.0	28.5	30.0	29.0
9	21.0	17.5	15.0	9.0	13.0	16.0	24.0	24.5	---	28.0	30.0	28.0
10	23.0	18.0	16.0	9.0	11.5	18.0	21.5	25.0	25.0	29.0	30.0	28.0
11	24.0	20.0	15.0	---	10.0	20.0	20.5	24.0	25.5	29.0	29.5	28.5
12	24.5	20.0	15.0	---	8.5	19.5	20.0	24.5	25.5	28.5	28.0	29.5
13	25.0	20.5	13.0	10.0	9.0	19.0	21.0	25.5	25.0	28.5	28.0	30.0
14	26.0	21.0	11.0	10.0	11.0	---	---	26.0	25.0	29.0	29.0	27.0
15	25.0	22.0	10.0	10.0	10.5	20.0	20.0	26.0	25.0	29.0	29.5	28.0
16	24.0	22.0	9.0	10.0	12.5	19.0	21.0	26.0	25.5	29.0	29.0	29.0
17	---	21.0	9.5	11.0	13.5	19.0	21.0	25.0	26.0	31.0	---	28.0
18	---	21.0	10.0	11.0	14.0	20.0	21.0	24.0	26.0	30.5	30.0	29.0
19	24.0	22.0	9.0	11.0	---	19.0	22.5	23.0	26.0	---	30.0	28.0
20	24.0	21.0	9.5	11.0	15.5	18.5	22.0	23.0	27.0	32.0	30.0	27.0
21	24.0	19.0	9.0	12.0	15.5	16.5	21.0	23.0	27.0	31.0	30.5	27.0
22	24.0	17.0	10.0	12.5	14.0	---	20.0	25.0	---	30.0	30.0	28.0
23	24.0	17.0	11.0	11.0	15.0	18.0	19.5	25.5	28.0	31.0	29.0	27.0
24	23.5	18.0	12.0	11.0	14.0	16.0	21.0	26.0	---	30.0	29.5	27.0
25	23.0	19.5	11.0	12.0	14.0	17.5	19.0	---	29.5	---	29.5	27.0
26	22.0	20.0	10.0	---	15.5	17.5	21.0	25.5	28.0	30.0	30.5	27.0
27	---	20.5	10.0	9.5	14.0	18.0	22.0	26.0	28.0	32.0	---	28.0
28	20.0	19.0	10.0	10.0	14.0	19.0	22.0	25.0	28.0	30.5	30.0	28.5
29	19.0	17.0	12.0	10.0	---	---	22.5	26.0	27.5	31.0	27.0	29.0
30	18.0	16.5	11.0	11.5	---	---	22.5	26.5	27.5	31.5	---	28.5
31	17.5	---	13.0	12.0	---	21.0	---	26.0	---	32.0	27.5	---
MEAN	22.0	18.5	12.0	11.0	13.5	17.5	21.5	24.5	26.5	29.5	29.5	28.0

08031000 COW BAYOU NEAR MAURICEVILLE, TX

LOCATION.--Lat 30°11'10", long 93°54'30", Orange County, Hydrologic Unit 12010005, near center of span on downstream side of bridge on State Highway 12, 0.4 mi upstream from Kansas City Southern Railway Co. bridge, and 2.7 mi southwest of Mauriceville.

DRAINAGE AREA.--83.3 mi^2.

PERIOD OF RECORD.--March 1952 to September 30, 1986 (discontinued). October 1956 to September 1957, monthly discharge only. Water-quality records: Sediment records: October 1976 to September 1979.

REVISED RECORD.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.27 ft below National Geodetic Vertical Datum of 1929. Prior to Oct. 23, 1957, nonrecording gage at present site and former datum. Prior to Sept. 7, 1984, at datum 5.00 ft higher.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. No large diversion above station. Base flow is partly sustained by springs. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--34 years, 98.3 ft^3/s, 16.79 in/yr, 74,620 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,600 ft^3/s Sept. 19, 1963, (gage height, 18.15 ft) former datum; no flow at times. Maximum stage since at least 1940, 18.16 ft, former datum, Oct. 28, 1970.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 31	1200	1,180	16.07	June 10	Unknown	*1,500	*17.80

Minimum daily discharge (estimated), 0.17 ft^3/s Aug. 25-27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	1120	254	e27	e3.4	e4.8	e1.6	e30	e40	349	e.27	20
2	1.7	1000	223	e22	e3.2	e4.5	e1.4	e100	e60	259	e.25	16
3	1.4	785	192	e19	e3.0	e10	e1.2	e200	e70	230	e.24	3.5
4	1.3	563	165	e17	83	142	e1.0	e250	e75	276	e.23	2.3
5	1.2	402	141	e15	87	127	e.90	e240	e150	153	e.22	1.7
6	1.2	298	119	e14	127	104	e.80	e220	e200	106	e.22	17
7	1.1	228	e92	e20	161	68	e.70	e180	e230	80	e.21	22
8	1.1	174	e70	e25	188	41	e.60	154	e800	e60	e.21	15
9	1.1	135	e55	e25	189	25	e.50	95	e1200	e45	e.20	20
10	1.1	e98	e45	e23	175	16	e6.0	51	e1450	e32	e.20	18
11	1.1	e75	e90	e20	141	11	e10	30	e1400	e23	e1.2	12
12	1.2	e60	212	e17	95	33	e15	22	e1200	e17	e1.1	13
13	1.1	e70	220	e15	63	101	e20	17	e1000	e12	e.60	9.3
14	1.1	e80	226	14	43	174	e15	17	e700	e8.2	e.40	4.6
15	1.9	e85	263	13	31	175	e10	14	e500	5.2	e.32	3.3
16	2.1	e90	267	12	23	180	e7.0	9.8	e400	3.1	e.28	2.2
17	1.6	e90	243	13	18	160	e5.0	8.3	e330	1.8	e.26	1.5
18	1.4	e85	207	13	15	124	e4.0	8.2	274	2.4	e.24	4.0
19	1.4	e75	167	12	12	88	e6.0	8.2	282	1.5	e.22	23
20	2.4	e65	137	10	10	57	e60	8.9	336	e.80	e.20	23
21	2.9	e55	e109	8.5	e9.0	36	e80	9.8	321	e.60	e.19	13
22	9.3	e45	e85	7.3	e8.0	21	e70	9.1	265	e.40	e.18	11
23	16	e40	e65	e6.6	e7.0	13	e50	8.7	200	e.30	e.18	40
24	16	e50	e50	e6.0	e6.4	e8.7	e35	8.6	144	1.6	e.18	34
25	20	e70	e40	e5.4	e6.0	e6.6	e25	67	86	1.4	e.17	16
26	22	e80	e35	e5.0	e5.7	e4.9	e18	100	204	4.2	e.17	8.2
27	29	e95	e40	e4.6	e5.4	3.3	e13	8.7	288	1.0	e.17	4.7
28	525	213	e45	e4.3	e5.1	2.5	e18	11	333	e.60	e5.2	3.4
29	815	236	e45	e4.0	---	2.2	e20	9.4	422	e.45	e1.8	4.7
30	1020	265	e40	e3.8	---	2.0	e18	8.7	420	e.35	e.90	2.9
31	1140	---	e32	e3.6	---	e1.8	---	e10	---	e.30	e.50	---
TOTAL	3644.3	6727	3974	405.1	1523.2	1747.3	513.70	1914.4	13380	1676.20	16.71	369.3
MEAN	118	224	128	13.1	54.4	56.4	17.1	61.8	446	54.1	.54	12.3
MAX	1140	1120	267	27	189	180	80	250	1450	349	5.2	40
MIN	1.1	40	32	3.6	3.0	1.8	.50	8.2	40	.30	.17	1.5
CFSM	1.42	2.69	1.54	.16	.65	.68	.21	.74	5.35	.65	.01	.15
IN.	1.63	3.00	1.77	.18	.68	.78	.23	.85	5.98	.75	.01	.16
AC-FT	7230	13340	7880	804	3020	3470	1020	3800	26540	3320	33	733

CAL YR 1985 TOTAL 36951.80 MEAN 101 MAX 1140 MIN .04 CFSM 1.21 IN. 16.50 AC-FT 73290
WTR YR 1986 TOTAL 35891.21 MEAN 98.3 MAX 1450 MIN .17 CFSM 1.18 IN. 16.03 AC-FT 71190

e Estimated.

08031200 KICKAPOO CREEK NEAR BROWNSBORO, TX

LOCATION.--Lat 32°18'34", long 95°36'19", Henderson County, Hydrologic Unit 12020001, on left bank at bridge on Farm Road 314, 1.0 mi northeast of Brownsboro, and 11.5 mi upstream from mouth.

DRAINAGE AREA.--232 mi².

PERIOD OF RECORD.--April 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 358.62 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 22-24, 28-31, Nov. 25-26, and Dec. 12, 13. Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--24 years (water years 1963-86), 133 ft³/s (7.78 in/yr), 96,360 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,800 ft³/s Apr. 27, 1966 (gage height, 14.79 ft); maximum gage height, 15.34 ft May 11, 1968; no flow for many days.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1935, 16.4 ft in 1936 or 1937, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 13	Unknown	3,180	11.39	Apr. 14	2200	1,010	9.21
Feb. 5	2100	2,860	11.17	May 12	1200	2,040	10.52
Apr. 5	1800	*6,320	*12.82	May 19	0300	4,930	12.27

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	42	869	70	45	54	26	172	80	25	.06	.03
2	.00	47	866	67	44	51	25	327	118	19	.04	.06
3	.00	44	628	65	133	49	26	465	158	17	.08	.05
4	.00	31	537	69	765	46	29	517	206	57	.09	.05
5	.00	17	466	65	1990	47	3170	648	260	116	.07	.07
6	.00	11	363	61	2250	48	5520	518	273	107	.06	.85
7	.00	6.9	271	58	1170	46	2890	391	265	81	.02	.14
8	.00	5.0	184	55	794	46	1140	269	333	47	.01	.04
9	.00	3.6	120	54	657	44	707	311	741	31	.00	.03
10	.00	2.2	99	52	524	41	544	724	867	22	.00	.03
11	.00	10	1090	51	415	42	436	1540	685	17	.00	.01
12	.00	57	1860	50	329	47	467	1890	564	11	.00	.03
13	.00	110	2490	50	290	51	649	1320	494	7.6	.00	.04
14	.01	112	1450	50	263	52	840	817	430	4.4	.00	.04
15	.00	104	834	50	221	51	891	578	394	2.7	.00	.04
16	.00	93	573	50	171	50	647	438	370	2.0	.00	.04
17	.00	96	433	54	139	47	496	561	464	.85	.00	.04
18	2.8	103	335	64	119	52	383	2610	601	.46	.00	.04
19	62	115	260	73	107	70	293	4150	539	.64	.00	.05
20	33	136	196	78	97	67	431	1930	434	1.0	.00	.05
21	58	128	149	80	88	53	583	962	308	1.5	.00	.08
22	65	116	126	75	80	46	753	661	182	1.9	.00	.18
23	69	98	110	67	72	41	691	497	102	3.5	.00	.17
24	73	153	98	61	65	37	529	380	69	4.1	.00	.16
25	52	290	91	57	61	33	401	275	53	4.5	.00	.12
26	20	280	86	53	60	32	282	185	44	4.6	.00	.09
27	8.5	394	81	50	58	31	172	132	42	3.8	.00	.08
28	5.7	625	76	48	56	31	156	116	66	2.1	.01	.06
29	8.1	793	71	47	---	31	176	106	54	1.5	.01	.03
30	14	775	70	45	---	28	157	88	33	.57	.00	.02
31	25	---	71	45	---	27	---	70	---	.18	.00	---
TOTAL	496.11	4797.7	14953	1814	11063	1391	23510	23648	9229	597.90	.45	2.72
MEAN	16.0	160	482	58.5	395	44.9	784	763	308	19.3	.01	.09
MAX	73	793	2490	80	2250	70	5520	4150	867	116	.09	.85
MIN	.00	2.2	70	45	44	27	25	70	33	.18	.00	.01
CFSM	.07	.69	2.08	.25	1.70	.19	3.38	3.29	1.33	.08	.00	.00
IN.	.08	.77	2.40	.29	1.77	.22	3.77	3.79	1.48	.10	.00	.00
AC-FT	984	9520	29660	3600	21940	2760	46630	46910	18310	1190	.9	5.4

CAL YR 1985 TOTAL 50956.16 MEAN 140 MAX 3550 MIN .00 CFSM .60 IN. 8.17 AC-FT 101100
WTR YR 1986 TOTAL 91502.88 MEAN 251 MAX 5520 MIN .00 CFSM 1.08 IN. 14.67 AC-FT 181500

08031290 LAKE ATHENS NEAR ATHENS, TX

LOCATION.--Lat 32°12'15", long 95°43'30", Henderson County, Hydrologic Unit 12020001, at upstream side of dam on Flat Creek, 5 mi downstream from Underwood Lake, 8 mi east of Athens, and 18 mi upstream from Neches River.

DRAINAGE AREA.--21.6 mi².

PERIOD OF RECORD.--October 1964 to current year. Prior to October 1972, published as Flat Creek Reservoir.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a rolled earthfill dam 3,000 ft long. Deliberate impoundment began Nov. 1, 1962, and the dam was completed in May 1963. The emergency spillway is an uncontrolled 300-foot-wide channel cut through natural ground at the left end of the dam. The service spillway is an uncontrolled 6- by 6-foot square drop inlet that is connected to a concrete conduit of the same size that extends through the dam. A 4.0- by 5.5-foot inlet box with slide valve that connects to an 18-inch-diameter concrete conduit extends through the dam and serves as the low-flow service outlet. Water is used for municipal supply by the city of Athens. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	453 +	-
Crest of spillway..	446.0	42,600
Crest of drop inlet (top of conservation pool)........................	440.0	32,790
Normal operating level...	440.0	32,790
Lowest gated outlet (invert)..	396.5	100

COOPERATION.--The capacity table, furnished by the city of Athens, is based on Geological Survey topographic maps dated 1949-50.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 36,500 acre-ft May 10, 1968 (elevation, 442.37 ft); minimum since operating level was reached (May 7, 1968), 29,300 acre-ft Nov. 9-13, 1980 (elevation, 437.64 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 35,310 acre-ft Apr. 5 at 1700 to 2400 hours (elevation, 441.62 ft); minimum, 30,410 acre-ft Oct. 13, 14 (elevation, 438.40 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

438.0	29,820	440.0	32,790
439.0	31,290	442.0	35,910

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30640	32370	33670	33320	33180	33190	33040	33460	33330	33040	32420	31920
2	30610	32400	33600	33320	33190	33180	33040	33490	33350	33020	32340	31890
3	30580	32430	33550	33320	33940	33180	33040	33430	33330	33210	32450	31890
4	30570	32430	33470	33290	33910	33160	33040	33410	33330	33210	32430	31880
5	30540	32430	33430	33270	33880	33160	35310	33360	33350	33180	32420	31820
6	30510	32430	33410	33270	33810	33150	34870	33350	33470	33160	32360	31850
7	30470	32430	33360	33270	33770	33150	34470	33330	33660	33160	32330	31850
8	30440	32390	33360	33260	33720	33150	34190	33470	33720	33130	32310	31860
9	30440	32400	33350	33260	33660	33150	33970	33520	33740	33130	32280	31860
10	30420	32490	33660	33270	33600	33150	33840	34050	33640	33120	32250	31820
11	30420	32730	34080	33270	33550	33180	33720	34030	33750	33070	32250	31800
12	30420	32790	34110	33270	33550	33210	33810	33940	33670	33040	32240	31760
13	30420	32820	33950	33260	33520	33190	33720	33780	33570	33010	32180	31740
14	30530	32880	33840	33260	33430	33190	33640	33630	33550	33010	32190	31680
15	30510	32900	33740	33260	33390	33190	33550	33530	33470	32960	32120	31670
16	30510	32950	33660	33270	33390	33190	33490	33460	33630	32950	32090	31640
17	30510	33020	33580	33290	33390	33190	33470	33920	33660	32910	32070	31610
18	31030	33040	33520	33290	33380	33330	33430	33890	33630	32850	32040	31590
19	31760	33100	33490	33300	33350	33290	33580	33780	33530	32840	31980	31580
20	31830	33120	33470	33300	33350	33220	33570	33660	33500	32810	31970	31560
21	31910	33120	33440	33300	33330	33190	33500	33570	33460	32790	31940	31590
22	31950	33100	33430	33270	33300	33180	33460	33490	33360	32730	31890	31640
23	31970	33100	33410	33260	33270	33160	33410	33410	33320	32730	31850	31640
24	31980	33470	33350	33260	33260	33130	33360	33390	33260	32700	31860	31620
25	31980	33500	33350	33240	33260	33130	33330	33350	33240	32640	31860	31610
26	32000	33500	33350	33210	33240	33100	33320	33330	33190	32630	31820	31610
27	31980	33720	33320	33210	33220	33100	33390	33320	33160	32570	31790	31580
28	32190	33660	33320	33180	33210	33070	33350	33290	33150	32550	31950	31580
29	32220	33600	33320	33180	---	33080	33350	33260	33100	32510	31970	31580
30	32340	33660	33320	33180	---	33080	33330	33240	33070	32490	31980	31560
31	32360	---	33320	33180	---	33050	---	33320	---	32430	31970	---
MAX	32360	33720	34110	33320	33940	33330	35310	34050	33750	33210	32450	31920
MIN	30420	32370	33320	33180	33180	33050	33040	33240	33070	32430	31790	31560
(†)	439.71	440.56	440.34	440.25	440.27	440.17	440.35	440.34	440.18	439.76	439.45	439.18
(‡)	+1640	+1300	-340	-140	+30	-160	+280	-10	-250	-640	-460	-410
(††)	129	109	102	101	89	114	100	116	130	211	193	135

CAL YR 1985	MAX	34110	MIN	30420	(‡)	+750	(††)	1813
WTR YR 1986	MAX	35310	MIN	30420	(‡)	+840	(††)	1529

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.
(††) Diversions, in acre-feet, for municipal use by city of Athens.

08031400 LAKE PALESTINE NEAR FRANKSTON, TX

LOCATION.--Lat 32°03'12", long 95°26'12", Anderson-Cherokee County line, Hydrologic Unit 12020001, in outlet tower near right bank, 140 ft upstream from Blackburn Crossing Dam on Neches River, 5 mi east of Frankston, 11 mi upstream from gage (station 08032000), and at mile 354.0.

DRAINAGE AREA.--839 mi².

PERIOD OF RECORD.--February 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Sept. 20, 1962, nonrecording gage read once daily.

REMARKS.--The lake is formed by a rolled earthfill dam with a 500-foot-wide uncontrolled emergency spillway near the left end of dam. Deliberate impoundment began May 1, 1962. The enlargement of lake began Sept. 26, 1969, and was completed on Mar. 3, 1971. The outlet works consist of two 5- by 7-foot gates located in concrete tower near center of dam and connected to an 8.5-foot-diameter concrete conduit through the dam. The low-flow outlet consists of two 3.0-foot iron pipes connected to the tower structure for low-flow releases. Water is used for municipal and industrial purposes in the Palestine area. The diversion point is downstream from gage (station 08032000). There are no large diversions above station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	364.0	-
Design flood	355.3	726,000
Crest of spillway (top of conservation pool)	345.0	412,000
Lowest gated outlet (invert)	298.0	550

COOPERATION.--The capacity table, furnished by the Upper Neches River Municipal Water Authority, is based on Geological Survey topographic maps dated 1946 and 1948-49.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 501,300 acre-ft June 7, 1973 (elevation, 348.29 ft); minimum since first appreciable storage, 11,450 acre-ft Nov. 28, 1970 (elevation, 310.00 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 476,400 acre-ft Apr. 7 at 1700 to 2100 hours (elevation, 347.41 ft); minimum, 356,500 acre-ft Oct. 14 (elevation, 342.74 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

342.0	339,500	345.0	411,800
343.0	362,600	346.0	437,900
344.0	386,700	348.0	492,900

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	361900	404800	434200	420900	414700	418600	413400	428800	445500	418600	399000	379500
2	361200	406500	436900	420900	414400	418300	412800	427500	445700	419400	398000	378500
3	360500	406500	437900	420200	439500	418300	414700	428800	445700	418800	398000	378500
4	361000	406800	437900	422000	448700	417800	413600	427200	447100	417500	396700	378300
5	359800	406800	435300	418600	451400	418100	446500	426900	447400	417000	395700	378500
6	359100	407300	434000	418300	454100	417000	472200	428000	448700	417000	394500	378700
7	357700	406800	431900	419100	454100	416500	475300	426400	446500	416500	393700	379000
8	357500	404300	430600	418100	451400	415500	471600	428000	444700	415700	393200	378300
9	357700	404800	429300	417500	448400	414400	463800	429500	444400	414700	392000	377100
10	358000	414400	431600	417000	446500	417000	457100	436600	444100	413600	391700	375900
11	357700	425900	443600	416800	442000	417000	451100	446000	441700	411800	391700	377300
12	357700	426400	452800	416800	439500	417800	450900	451100	441700	410800	391500	377100
13	356800	427500	456800	416000	435300	417500	445500	451700	442200	410500	390500	376300
14	358700	426200	454400	416200	435300	417500	445500	447400	443300	410300	389500	375600
15	359100	427200	452500	415700	431400	417000	442200	446000	445500	409300	389000	374900
16	358400	425600	448700	416800	431400	417000	440300	441700	441400	408800	388700	374700
17	358000	424100	444900	417000	430600	415700	434800	451900	444700	408000	388500	374400
18	368600	422200	442000	417300	429500	418100	433200	460900	444400	407500	388000	373400
19	381600	427500	438400	416800	428500	418800	436600	468800	442500	407500	387200	373900
20	388200	423500	435800	416500	428800	416500	434200	468800	440600	407000	386200	373400
21	391000	422200	433500	418600	426400	415500	434000	462500	436900	406300	385500	373200
22	392500	421200	432200	417000	424300	414100	432900	455700	434500	405800	384000	372200
23	393500	422000	430300	416500	423300	414700	431100	452800	432400	405300	383800	372200
24	394200	428800	431400	417000	422800	414400	430600	447400	430900	404300	383600	371300
25	394500	430100	426200	417500	422000	414400	429000	446500	428800	404000	383100	371000
26	394200	432700	425100	418100	422200	415200	427500	443000	426200	403500	382600	371000
27	395700	433500	424600	414400	422200	415500	430300	439500	424100	402500	382600	371000
28	401300	435300	423500	414100	419600	414900	429000	442200	423000	401800	382100	370800
29	402800	434800	422500	415700	---	414100	426400	444700	421500	401300	380900	369800
30	405300	434200	422000	414400	---	413600	426700	444900	419900	400500	380200	368900
31	404000	---	422200	414400	---	413100	---	444100	---	399800	379200	---
MAX	405300	435300	456800	422000	454100	418800	475300	468800	448700	419400	399000	379500
MIN	356800	404300	422000	414100	414400	413100	412800	426400	419900	399800	379200	368900
(†)	344.69	345.86	345.40	345.10	345.30	345.05	345.57	346.23	345.31	344.52	343.69	343.26
(Φ)	+40200	+30200	-12000	-7800	+5200	-6500	+13600	+17400	-24200	-20100	-20600	-10300

CAL YR 1985 MAX 456800 MIN 356800 (Φ) +19200
WTR YR 1986 MAX 475300 MIN 356800 (Φ) +5100

(†) Elevation, in feet, at end of month.
(Φ) Change in contents, in acre-feet.

08032000 NECHES RIVER NEAR NECHES, TX

LOCATION.--Lat 31°53'32", long 95°25'50", Anderson-Cherokee County line, Hydrologic Unit 12020001, on left bank downstream from bridge on U.S. Highway 79, 1.0 mi downstream from Missouri Pacific Railway Co. bridge, 1.4 mi downstream from Walnut Creek, 4.4 mi northeast of Neches, and at mile 333.2.

DRAINAGE AREA.--1,145 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1939 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 264.06 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1945, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Apr. 29 to May 13. Records good except those for estimated daily discharges, which are fair. There is some regulation by Lake Palestine (station 08031400) 11 mi upstream and by Lake Athens (station 08031290) 50 mi upstream, capacity 454,600 acre-ft. No large diversion above station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--22 years (water years 1940-61) unregulated, 804 ft^3/s (582,500 acre-ft/yr); 25 years (water years 1962-86) regulated, 631 ft^3/s (457,200 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,500 ft^3/s Apr. 2, 1945 (gage height, 22.07 ft); no flow Oct. 3-5, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1908 (stage 24.3 ft) was the highest since flood in May 1884, which was probably higher.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,430 ft^3/s Apr. 9 at 1900 hours (gage height, 16.01 ft); minimum daily, 73 ft^3/s Oct. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	372	2730	800	283	688	191	1220	1840	650	145	135
2	76	272	2590	749	286	550	185	1300	1880	530	145	135
3	75	239	2720	676	336	466	176	1400	1970	508	146	136
4	75	193	2810	628	1730	468	182	1500	2040	587	151	136
5	73	164	2590	628	5170	472	283	1600	1870	623	148	135
6	73	143	2390	616	5070	428	631	1600	1720	545	146	136
7	74	133	2230	515	4630	425	1110	1550	1580	458	146	138
8	74	148	2070	526	4440	376	3320	1500	1480	441	145	139
9	74	116	1910	524	4230	343	6100	1600	1470	440	143	125
10	75	108	1760	469	3960	298	5980	1900	1530	398	142	89
11	75	357	1780	441	3590	332	5030	2200	1600	347	143	83
12	75	875	2070	413	3240	371	4360	2500	1680	289	150	84
13	76	1130	3100	391	2860	429	3820	2860	1760	247	148	81
14	77	1330	4080	381	2510	431	3390	3220	1780	239	144	81
15	86	1400	4640	359	2180	417	2970	3390	1730	227	143	80
16	87	1350	4600	349	2000	403	2680	3200	1680	208	142	79
17	86	1360	4260	460	1810	397	2380	3010	1930	193	140	80
18	88	1310	3790	574	1630	348	2140	3060	2540	183	140	79
19	93	1210	3350	513	1490	440	1940	3480	3020	177	139	79
20	111	1120	2970	462	1360	499	1890	4750	2950	172	139	79
21	123	1100	2610	425	1220	451	1880	5690	2660	168	139	80
22	154	1070	2300	420	1140	362	1940	5650	2370	168	137	82
23	177	987	2070	460	1060	283	1870	4950	2110	168	137	83
24	160	972	1860	401	945	259	1730	4200	1870	162	139	81
25	135	1200	1690	366	828	250	1580	3620	1660	159	142	80
26	120	1490	1550	418	749	232	1440	3220	1460	157	142	80
27	110	1820	1380	472	684	242	1310	2940	1280	154	138	80
28	118	2030	1170	420	680	250	1220	2650	1100	152	136	79
29	275	2190	1040	294	---	243	1190	2300	942	149	137	79
30	340	2310	953	308	---	225	1200	2020	795	149	137	79
31	443	---	863	303	---	207	---	1880	---	148	135	---
TOTAL	3757	28499	75926	14761	60111	11585	64118	85960	54297	9196	4404	2912
MEAN	121	950	2449	476	2147	374	2137	2773	1810	297	142	97.1
MAX	443	2310	4640	800	5170	688	6100	5690	3020	650	151	139
MIN	73	108	863	294	283	207	176	1220	795	148	135	79
AC-FT	7450	56530	150600	29280	119200	22980	127200	170500	107700	18240	8740	5780

CAL YR 1985 TOTAL 237334 MEAN 650 MAX 4640 MIN 61 AC-FT 470800
WTR YR 1986 TOTAL 415526 MEAN 1138 MAX 6100 MIN 73 AC-FT 824200

08032000 NECHES RIVER NEAR NECHES, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: December 1969 to current year. Biochemical analyses: October 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: December 1969 to current year.
WATER TEMPERATURES: December 1983 to current year.

INSTRUMENTATION.--Since December 1969, specific conductance is recorded continuously at this station. Beginning December 1983 water temperature is recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum and minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (1974-86): Maximum daily, 1,190 microsiemens Aug. 29, 1976; minimum daily, 77 microsiemens July 28, 1979.
WATER TEMPERATURES: Maximum daily, 36.0°C July 16, 1985; minimum daily 0.5°C Dec. 22, 1983 and Jan. 20, 22, 1984.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 331 microsiemens Oct. 29; minimum daily, 78 microsiemens Feb. 4.
WATER TEMPERATURES: Maximum daily 30.5°C July 20-22, Aug. 3, 19.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV										
21...	0925	1100	175	7.60	16.0	8.2	83	0.9	29	17
JAN										
10...	0715	476	173	6.30	6.5	10.7	--	1.0	28	20
APR										
01...	1230	191	168	6.10	19.0	8.4	91	1.0	34	18
MAY										
13...	1630	2900	134	6.70	24.0	6.8	82	1.1	27	12
JUL										
08...	1430	445	129	6.90	31.5	6.2	--	0.9	27	13
AUG										
27...	1130	137	122	6.20	28.0	6.8	--	0.9	25	10

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV									
21...	3.9	4.6	20	2	5.4	12	26	28	0.2
JAN									
10...	4.2	4.3	18	2	4.0	8	21	30	0.1
APR									
01...	6.1	4.6	18	1	3.4	16	21	25	0.1
MAY									
13...	5.4	3.2	13	1	4.3	15	20	17	0.1
JUL									
08...	5.7	3.2	11	0.9	3.9	14	18	16	0.2
AUG									
27...	5.3	2.9	12	1	3.7	15	17	16	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
NOV									
21...	10	110	0.19	0.01	0.20	0.05	0.45	0.5	0.03
JAN									
10...	8.6	95	--	0.01	<0.10	0.04	0.56	0.6	0.84
APR									
01...	7.4	95	0.02	0.04	0.06	0.21	0.29	0.5	0.04
MAY									
13...	4.2	76	--	<0.01	<0.10	0.05	0.55	0.6	0.04
JUL									
08...	8.5	75	--	0.01	<0.10	0.07	0.53	0.6	0.06
AUG									
27...	8.2	74	--	<0.01	0.20	0.05	0.25	0.3	0.03

08032000 NECHES RIVER NEAR NECHES, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	3757	240	146	1490	40	405	27	272	40
NOV. 1985	28499	166	98	7570	24	1880	24	1820	29
DEC. 1985	75926	159	94	19300	23	4720	23	4790	29
JAN. 1986	14761	173	103	4110	26	1030	24	973	31
FEB. 1986	60111	144	85	13800	20	3290	22	3580	26
MAR. 1986	11585	161	95	2980	23	732	23	735	29
APR. 1986	64118	143	84	14500	20	3470	22	3800	26
MAY 1986	85960	187	113	26100	29	6740	25	5690	33
JUNE 1986	54297	135	79	11600	19	2750	21	3110	25
JULY 1986	9196	139	82	2030	19	482	22	536	25
AUG. 1986	4404	129	75	895	18	209	21	244	24
SEPT 1986	2912	129	75	592	18	138	21	161	24
TOTAL	415526	**	**	105000	**	25800	**	25700	**
WTD.AVG.	1138	158	94	**	23	**	23	**	28

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	308	279	301	222	210	215	158	150	155	---	---	162
2	275	271	274	219	211	214	160	155	158	---	---	164
3	271	259	263	245	214	234	163	160	162	---	---	165
4	261	254	257	226	216	221	163	161	162	---	---	168
5	258	251	254	219	215	217	164	162	163	---	---	171
6	253	225	242	221	218	219	165	163	164	---	---	172
7	221	208	214	224	221	222	165	163	165	---	---	175
8	214	195	203	246	220	229	167	164	165	---	---	177
9	202	198	200	288	247	271	166	164	165	---	---	180
10	203	199	202	288	263	280	166	165	165	---	---	179
11	205	202	203	277	152	237	165	155	160	---	---	181
12	209	203	206	141	118	126	154	147	151	---	---	185
13	211	207	208	141	127	134	152	139	148	---	---	188
14	211	205	209	154	138	145	157	152	155	---	---	191
15	209	204	206	164	155	160	160	156	158	---	---	195
16	206	204	204	173	160	165	163	160	161	---	---	197
17	211	206	208	170	167	169	161	159	160	---	---	188
18	229	210	216	176	170	174	160	159	160	---	---	169
19	237	230	235	175	173	174	160	158	159	---	---	165
20	246	235	238	177	174	175	159	158	158	---	---	168
21	263	248	256	177	174	175	159	157	158	---	---	172
22	272	263	268	175	173	174	160	157	158	---	---	174
23	326	264	284	178	174	176	162	157	158	---	---	168
24	276	249	261	182	175	177	158	157	158	173	170	171
25	248	239	243	180	139	150	158	156	157	175	171	173
26	238	234	237	151	141	147	161	157	159	173	165	169
27	235	231	233	156	151	154	---	---	159	165	160	162
28	231	223	228	158	156	157	---	---	160	174	161	168
29	331	228	267	160	157	158	---	---	160	180	175	178
30	257	231	241	163	159	161	---	---	161	175	166	169
31	270	213	233	---	---	---	---	---	161	172	167	170
MONTH	331	195	235	288	118	187	167	139	159	180	160	175

08032000 NECHES RIVER NEAR NECHES, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	175	172	160	152	140	145	169	166	168	145	141	142
2	174	171	161	158	151	154	169	153	158	155	145	151
3	231	172	162	156	150	153	176	153	159	150	144	145
4	236	78	160	166	150	157	178	158	170	146	142	145
5	108	82	150	157	151	153	198	151	166	152	142	146
6	129	108	147	157	153	154	151	132	138	153	145	149
7	142	130	145	165	150	155	147	125	140	150	145	147
8	152	141	143	176	155	158	147	139	142	151	146	148
9	147	145	143	190	155	164	147	140	144	151	147	149
10	165	143	142	177	162	166	144	126	139	160	151	156
11	147	143	141	166	154	157	143	139	140	159	128	140
12	146	140	141	231	156	178	---	---	142	132	115	124
13	143	138	140	186	153	166	---	---	143	135	125	131
14	142	140	141	154	152	153	---	---	143	143	130	136
15	143	141	142	160	154	157	---	---	142	151	142	146
16	143	141	142	196	158	163	---	---	143	162	151	157
17	145	135	143	158	155	157	---	---	143	168	162	166
18	145	131	135	181	158	168	---	---	142	176	169	173
19	144	131	134	242	155	183	---	---	142	187	176	181
20	146	132	141	157	154	155	---	---	144	198	187	193
21	149	145	147	158	155	156	---	---	143	209	198	204
22	146	143	144	167	158	162	---	---	142	219	209	214
23	147	143	144	176	168	173	142	139	140	229	219	224
24	149	146	147	176	169	173	148	141	145	240	230	234
25	149	144	146	173	169	171	148	145	147	249	240	244
26	149	145	146	173	169	171	146	142	144	259	249	254
27	149	144	147	170	165	167	146	142	144	268	259	263
28	147	140	143	187	165	169	144	138	141	279	269	274
29	---	---	---	169	166	167	148	138	142	284	237	245
30	---	---	---	169	166	167	148	141	143	176	162	172
31	---	---	---	170	167	168	---	---	---	162	143	154
MONTH	236	78	146	242	140	163	198	125	146	284	115	178

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	145	139	141	137	135	136	153	130	140	127	122	123
2	148	141	144	140	136	137	150	128	140	125	122	123
3	142	134	138	141	135	137	150	120	136	124	123	124
4	143	134	137	135	128	132	146	123	135	125	124	124
5	139	134	136	129	125	127	148	124	138	125	123	124
6	142	138	140	145	128	139	149	122	137	127	123	125
7	154	140	143	144	138	140	142	126	135	128	122	124
8	151	138	143	---	---	140	144	123	133	126	123	124
9	154	142	146	---	---	140	141	125	133	126	123	124
10	144	138	141	---	---	141	147	123	135	133	127	129
11	140	138	139	---	---	141	146	123	134	134	131	132
12	139	136	137	---	---	142	140	121	132	139	131	133
13	138	136	137	---	---	142	135	114	125	134	131	132
14	136	133	134	---	---	143	135	116	127	133	132	132
15	134	133	134	---	---	143	138	110	128	132	131	131
16	134	122	130	145	143	144	142	118	128	132	130	131
17	141	122	128	146	143	144	137	108	126	132	131	131
18	157	126	136	144	142	143	146	108	127	131	129	130
19	158	124	135	163	139	144	140	112	126	133	130	131
20	134	125	129	163	137	142	134	108	122	133	130	131
21	128	124	126	138	135	137	137	113	124	132	130	131
22	134	126	131	169	132	148	133	113	123	132	130	131
23	132	130	131	134	132	133	135	108	121	132	129	131
24	131	130	130	159	131	146	132	110	120	137	131	134
25	131	129	130	164	131	147	134	106	121	137	135	136
26	135	131	133	165	140	150	130	112	122	136	134	135
27	136	134	135	159	124	143	134	111	122	134	133	134
28	138	135	137	157	127	143	125	123	124	135	132	133
29	139	135	136	161	132	142	124	122	123	133	132	132
30	137	134	135	153	126	143	122	121	122	133	132	132
31	---	---	---	152	122	139	126	122	123	---	---	---
MONTH	158	122	136	169	122	141	153	106	128	139	122	130

08032000 NECHES RIVER NEAR NECHES, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	20.0	18.0	19.0	17.0	16.0	16.0	16.0	14.0	15.0	---	---	---
2	20.0	17.5	18.5	16.0	15.5	15.5	14.0	13.0	13.5	---	---	---
3	20.0	17.5	18.5	15.5	14.5	15.0	13.0	12.5	13.0	---	---	---
4	21.0	18.0	19.5	15.0	14.0	14.5	14.0	13.0	13.5	---	---	---
5	20.5	18.0	19.0	14.5	14.0	14.0	14.5	13.5	14.0	---	---	---
6	19.5	17.0	18.0	15.5	14.0	14.5	14.5	14.0	14.5	---	---	---
7	19.5	16.5	18.0	15.5	15.0	15.0	14.5	14.0	14.5	---	---	---
8	21.0	18.0	19.5	15.5	14.5	15.0	15.5	14.5	15.0	---	---	---
9	22.5	19.5	21.0	17.5	15.5	16.5	17.0	15.5	16.0	---	---	---
10	23.5	21.0	22.0	19.0	17.5	18.5	18.0	17.0	17.5	---	---	---
11	24.5	22.5	23.5	19.5	19.0	19.0	18.0	15.0	16.5	---	---	---
12	25.0	23.0	24.0	19.0	18.5	18.5	15.0	13.0	14.0	---	---	---
13	25.5	23.5	24.5	19.5	19.0	19.5	13.0	11.5	12.0	---	---	---
14	25.5	24.0	24.5	20.0	19.5	19.5	11.0	10.5	11.0	---	---	---
15	24.0	22.5	23.0	20.0	19.0	19.5	11.5	10.5	11.0	---	---	---
16	22.5	22.0	22.0	18.5	17.5	18.0	12.0	11.0	11.5	---	---	---
17	22.5	21.5	22.0	17.5	17.0	17.5	12.5	11.5	12.0	---	---	---
18	23.5	22.0	22.5	19.0	17.5	18.0	12.5	12.0	12.0	---	---	---
19	23.0	22.5	23.0	19.5	19.0	19.0	12.0	11.5	12.0	---	---	---
20	23.0	22.0	22.5	19.0	16.5	17.5	12.0	11.5	11.5	---	---	---
21	22.5	22.0	22.5	16.0	15.5	16.0	12.0	11.0	11.5	---	---	---
22	22.0	22.0	22.0	16.0	15.5	15.5	12.5	11.5	12.0	---	---	---
23	22.5	22.0	22.0	17.0	16.0	16.5	13.0	12.0	12.5	---	---	---
24	23.0	22.0	22.5	17.5	17.0	17.5	13.0	12.0	12.5	12.5	11.0	12.0
25	22.5	22.5	22.5	18.5	17.5	18.0	12.0	10.5	11.5	13.5	12.5	13.0
26	22.5	21.5	22.0	19.0	18.5	18.5	10.5	9.5	10.0	13.5	12.5	13.0
27	21.5	21.0	21.0	19.0	17.5	18.5	---	---	---	12.5	10.5	11.5
28	21.0	19.5	20.0	17.5	15.0	16.5	---	---	---	11.0	9.0	10.0
29	19.5	18.5	19.0	15.0	14.0	14.5	---	---	---	12.5	11.0	12.0
30	18.5	17.0	18.0	15.5	14.0	15.0	---	---	---	13.5	12.0	13.0
31	17.0	16.5	17.0	---	---	---	---	---	---	15.0	13.5	14.0
MONTH	25.5	16.5	21.0	20.0	14.0	17.0	18.0	9.5	13.0	15.0	9.0	12.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	16.5	15.0	15.5	12.5	12.0	12.5	19.5	19.0	19.0	21.0	20.5	20.5
2	17.0	16.5	17.0	14.0	11.5	13.0	19.5	18.5	19.0	20.5	20.0	20.5
3	18.5	17.0	17.5	15.0	13.5	14.0	19.0	18.5	18.5	20.5	19.5	20.0
4	18.5	18.0	18.5	14.5	13.5	14.0	20.0	18.5	19.5	20.5	20.0	20.0
5	18.0	16.5	17.5	15.0	13.0	14.0	20.0	19.0	19.5	21.0	20.5	20.5
6	16.5	14.5	16.0	15.5	13.5	14.5	19.5	18.5	19.0	21.5	20.5	21.0
7	14.5	14.0	14.0	15.0	13.5	14.5	19.5	18.5	19.0	21.5	21.0	21.5
8	14.0	13.0	13.5	16.0	14.0	15.0	20.0	19.0	20.0	22.0	21.5	21.5
9	13.0	12.0	12.5	18.0	15.5	16.5	20.0	18.5	19.0	22.0	21.5	21.5
10	12.0	10.5	11.5	19.5	17.5	18.0	18.5	18.0	18.0	22.0	21.5	22.0
11	11.0	10.0	10.5	18.5	17.5	18.0	18.5	18.0	18.0	22.0	21.0	21.5
12	10.0	9.0	9.5	19.5	17.0	18.0	---	---	---	23.0	22.0	22.5
13	9.5	9.0	9.5	18.0	17.0	17.5	---	---	---	23.5	23.0	23.0
14	11.0	9.5	10.5	18.0	16.0	17.0	---	---	---	23.0	23.0	23.0
15	11.5	10.0	11.0	18.0	16.5	17.0	---	---	---	23.0	22.5	22.5
16	13.5	11.5	12.5	19.0	16.5	18.0	---	---	---	22.5	22.5	22.5
17	15.0	13.5	14.0	19.0	17.0	18.0	---	---	---	22.5	21.5	22.0
18	15.0	14.0	14.5	21.0	18.5	19.5	---	---	---	21.0	20.5	21.0
19	15.5	14.0	15.0	20.5	17.5	18.5	---	---	---	21.0	20.0	20.5
20	16.0	15.0	15.5	19.0	16.0	17.0	---	---	---	21.5	20.5	21.0
21	15.5	14.0	14.5	17.0	15.0	16.0	---	---	---	22.5	21.0	22.0
22	14.0	13.0	13.5	16.0	14.0	15.0	---	---	---	23.5	22.0	23.0
23	13.5	13.0	13.5	17.5	14.5	16.0	20.0	18.5	19.0	23.5	23.0	23.5
24	14.0	12.5	13.5	18.5	16.0	17.5	20.5	19.5	20.0	24.0	23.5	23.5
25	14.5	13.0	14.0	20.0	17.0	18.5	20.5	20.0	20.0	23.5	23.5	23.5
26	15.5	14.0	15.0	21.5	18.0	20.0	20.5	20.0	20.5	23.5	23.0	23.0
27	15.5	14.5	15.0	21.5	18.5	20.0	20.5	20.0	20.5	23.0	22.5	23.0
28	14.5	13.0	13.5	22.0	18.0	20.0	20.5	19.5	20.0	23.5	23.0	23.0
29	---	---	---	21.0	19.0	20.0	21.0	20.0	20.5	24.0	23.0	23.5
30	---	---	---	21.0	19.5	20.5	21.5	21.0	21.0	24.5	24.0	24.0
31	---	---	---	20.5	19.5	20.0	---	---	---	24.5	24.0	24.5
MONTH	18.5	9.0	14.0	22.0	11.5	17.0	21.5	18.0	19.5	24.5	19.5	22.0

08032000 NECHES RIVER NEAR NECHES, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	24.0	23.5	24.0	29.0	28.0	28.5	---	---	---	26.5	25.5	26.0
2	24.5	23.5	24.0	28.5	28.0	28.0	---	---	---	27.0	26.0	26.5
3	24.5	24.0	24.0	28.0	27.5	27.5	30.5	29.5	30.0	28.0	26.0	27.0
4	25.0	24.5	25.0	28.0	27.5	27.5	30.0	29.0	29.5	28.5	27.0	27.5
5	25.0	25.0	25.0	29.0	27.5	28.0	30.0	29.0	29.5	28.0	27.0	27.5
6	24.5	24.5	24.5	28.5	28.0	28.5	---	---	---	27.0	26.0	26.5
7	25.0	24.5	24.5	28.5	27.5	28.0	---	---	---	26.5	25.5	26.0
8	25.0	24.5	24.5	29.5	28.0	28.5	---	---	---	27.0	25.5	26.5
9	25.0	24.5	24.5	29.5	27.5	29.0	---	---	---	27.5	26.0	26.5
10	25.5	24.5	25.0	29.0	28.5	29.0	---	---	---	28.0	26.0	27.0
11	25.5	24.5	25.0	29.0	28.5	29.0	29.5	28.5	29.0	28.0	25.0	26.5
12	25.0	24.0	24.5	29.5	28.5	29.0	29.0	27.5	28.0	---	---	---
13	26.0	24.5	25.0	29.0	28.5	28.5	29.0	27.5	28.5	---	---	---
14	26.5	25.5	26.0	29.0	28.0	28.5	29.5	28.0	28.5	---	---	---
15	26.5	25.5	26.0	29.5	28.5	29.0	30.0	28.5	29.0	---	---	---
16	26.5	25.5	26.0	29.5	28.0	29.0	30.0	29.0	29.5	---	---	---
17	25.5	24.5	25.0	30.0	28.5	29.0	30.0	29.0	29.5	---	---	---
18	25.5	24.5	25.0	30.0	28.5	29.0	30.0	29.0	29.5	---	---	---
19	26.5	25.5	26.0	30.0	28.5	29.5	30.5	29.0	29.5	---	---	---
20	27.5	26.5	27.0	30.5	29.0	29.5	30.0	29.0	29.5	---	---	---
21	27.5	27.0	27.5	30.5	29.5	30.0	30.0	29.0	29.5	---	---	---
22	28.0	27.0	27.5	30.5	29.5	30.0	29.5	28.5	29.0	---	---	---
23	28.0	27.5	27.5	---	---	---	28.5	28.0	28.5	---	---	---
24	28.0	27.5	28.0	---	---	---	28.5	27.5	28.0	---	---	---
25	29.0	27.5	28.0	---	---	---	29.0	27.5	28.0	---	---	---
26	29.0	28.5	29.0	---	---	---	29.0	28.0	28.5	---	---	---
27	29.0	28.5	28.5	---	---	---	29.0	28.0	28.5	---	---	---
28	29.0	28.0	28.5	---	---	---	28.5	27.0	28.0	---	---	---
29	28.5	28.0	28.0	---	---	---	27.0	25.5	26.0	---	---	---
30	29.0	28.0	28.5	---	---	---	26.0	25.0	25.5	---	---	---
31	---	---	---	---	---	---	26.5	25.0	25.5	---	---	---
MONTH	29.0	23.5	26.0	30.5	27.5	29.0	30.5	25.0	28.5	28.5	25.0	26.5

08033300 PINEY CREEK NEAR GROVETON, TX

LOCATION.--Lat 31°08'25", long 95°05'11", Trinity County, Hydrologic Unit 12020002, on left bank at downstream side of bridge on State Highway 94, 6.3 mi northeast of Groveton, and 7.3 mi upstream from Caney Creek.

DRAINAGE AREA.--79.0 mi².

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 251.40 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Mar. 5 to Apr. 9, June 22-24, July 1 to Sept. 5, and Sept. 8-19, 21-30. Records good except those for estimated daily discharges, which are poor. No diversions above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years, 39.4 ft³/s (6.77 in/yr), 28,550 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,480 ft³/s Apr. 20, 1979 (gage height, 15.70 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1921, 17 ft in May 1942, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s (revised) and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 26	0200	*3,250	*14.08	May 19	0100	688	11.79
Dec. 12	1200	985	12.51				

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	36	49	4.7	1.4	1.2	.55	31	21	2.9	.00	.00
2	.00	14	44	4.4	1.4	1.2	.55	245	13	2.3	.00	.00
3	.00	10	28	3.9	1.5	1.2	.51	421	13	1.9	.00	.00
4	.00	5.6	22	3.7	10	1.1	.51	347	11	1.6	.00	.00
5	.00	3.0	16	3.3	29	1.1	.51	92	85	1.3	.00	.00
6	.00	1.7	12	3.1	96	1.0	.51	28	71	1.1	.00	17
7	.00	1.2	10	3.0	43	.98	.51	17	41	.96	.00	3.6
8	.00	1.0	8.6	2.7	22	.95	.51	12	51	.83	.00	.97
9	.00	.81	7.2	2.9	14	.90	.51	9.3	144	.72	.00	.72
10	.00	.63	6.5	6.3	13	.85	.95	38	90	.62	.00	.54
11	.00	.59	287	8.2	14	.80	1.5	80	44	.54	.00	.39
12	.00	.62	891	6.3	10	.77	1.7	30	78	.48	.00	.28
13	.00	.63	781	4.9	7.4	.75	1.4	19	42	.42	.00	.19
14	.05	.63	466	3.9	6.2	.72	1.0	11	22	.37	.00	.12
15	12	.62	88	3.4	5.5	.70	.90	7.7	12	.34	.00	.08
16	5.3	77	44	3.1	4.6	.67	.83	7.0	9.3	.31	.00	.05
17	.87	364	30	3.0	4.2	.65	.83	58	191	.28	.00	.01
18	.38	57	23	3.0	3.6	.62	.83	592	100	.26	.00	.00
19	20	20	18	3.0	3.0	.60	.82	617	57	.23	.00	.00
20	5.8	8.7	15	2.9	2.8	.58	.83	235	47	.21	.00	2.4
21	.61	4.7	12	2.7	2.3	.59	1.8	44	20	.18	.00	1.5
22	.28	2.9	11	2.6	2.0	.59	1.7	23	12	.16	.00	1.1
23	.16	2.1	9.5	2.3	1.8	.59	1.1	15	8.1	.13	.00	.53
24	.10	1.7	8.9	2.0	1.6	.59	.92	11	5.9	.10	.00	.40
25	.08	801	7.8	2.0	1.4	.59	.92	12	4.5	.08	.00	.29
26	.04	1930	6.6	1.8	1.4	.59	.90	13	4.3	.06	.00	.21
27	.03	875	6.1	1.6	1.4	.57	2.5	37	18	.04	.00	.14
28	8.2	615	5.8	1.4	1.3	.55	267	362	7.2	.02	.00	.10
29	10	139	5.5	1.5	---	.55	317	43	4.3	.01	.00	.06
30	82	57	5.0	1.4	---	.55	93	14	3.4	.01	.00	.03
31	122	---	5.0	1.4	---	.55	---	18	---	.00	.00	---
TOTAL	267.92	5032.13	2929.5	100.4	305.8	23.65	703.10	3489.0	1230.0	18.46	.00	30.71
MEAN	8.64	168	94.5	3.24	10.9	.76	23.4	113	41.0	.60	.00	1.02
MAX	122	1930	891	8.2	96	1.2	317	617	191	2.9	.00	17
MIN	.00	.59	5.0	1.4	1.3	.55	.51	7.0	3.4	.00	.00	.00
CFSM	.11	2.13	1.20	.04	.14	.01	.30	1.43	.52	.01	.00	.01
IN.	.13	2.37	1.38	.05	.14	.01	.33	1.64	.58	.01	.00	.01
AC-FT	531	9980	5810	199	607	47	1390	6920	2440	37	.00	61

CAL YR 1985 TOTAL 21965.24 MEAN 60.2 MAX 1930 MIN .00 CFSM .76 IN. 10.34 AC-FT 43570
WTR YR 1986 TOTAL 14130.67 MEAN 38.7 MAX 1930 MIN .00 CFSM .49 IN. 6.65 AC-FT 28030

08033500 NECHES RIVER NEAR ROCKLAND, TX

LOCATION.--Lat 31°01'29", long 94°23'55", Tyler County, Hydrologic Unit 12020003, on downstream side of bridge at U.S. Highway 69, 2,200 ft upstream from abandoned ferry crossing, 0.8 mi upstream from Texas and New Orleans Railway Co. bridge, 1.2 mi north of Rockland, 3.2 mi downstream from Billiams Creek, and 32.4 mi upstream from Angelina River.

DRAINAGE AREA.--3,636 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1903 to current year.

REVISED RECORDS.--WSP 878: 1926-27. WSP 1342: 1922(M), 1935. WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 88.41 ft above National Geodetic Vertical Datum of 1929. Prior to May 23, 1973, nonrecording gage located 2,200 ft downstream at datum 3.00 ft higher. May 23, 1973, to Sept. 30, 1975, recording gage at present site at datum 3.00 ft higher.

REMARKS.--Estimated daily discharges: Feb. 25-28, and Mar. 1-6, 9-12, 15-19. Records good. For statement regarding regulation by upstream reservoirs, see station 08033000. During the current year, the Upper Neches River Municipal Water Authority diverted 3,484 acre-ft from the Neches River at diversion point located about 10 miles downstream from station 08032000. This water is used for municipal and industrial purposes in the Palestine area. Gage-height telemeter at station.

AVERAGE DISCHARGE.--58 years (water years 1904-61) unregulated, 2,362 ft^3/s (1,711,000 acre-ft/yr); 25 years (water years 1962-86) regulated, 1,982 ft^3/s (1,436,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,800 ft^3/s May 6, 1944 (gage height, 35.04 ft), present site; minimum observed during period of daily records, 1.6 ft^3/s Sept. 28-30, Oct. 1, 2, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Historical flood information begins with flood in May 1884 which reached a stage of 38.0 ft, present site, from information by local resident (discharge, about 62,000 ft^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,200 ft^3/s June 12 at 1600 hours (gage height, 24.42 ft); minimum daily, 80 ft^3/s Oct. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	204	4430	5900	4260	984	3550	589	4310	6100	7020	204	182
2	127	3420	7850	4250	950	3230	563	6610	5970	5790	196	205
3	98	2860	9280	4180	963	2930	542	7460	6040	4600	190	234
4	95	2660	9780	4070	6400	2620	528	7460	6150	3850	189	245
5	106	2520	9610	3890	7500	2350	516	7340	6500	3460	184	260
6	108	2400	8990	3690	6910	2030	500	6940	7570	3170	175	334
7	108	2270	8070	3440	4900	1740	484	6420	8270	2970	173	341
8	108	2080	7010	3210	3360	1540	466	5850	9560	2600	179	597
9	105	1790	6020	2970	2730	1400	455	5290	10800	2050	191	678
10	100	1380	5240	2760	2600	1500	462	4720	12500	1610	192	621
11	95	1020	5580	2540	2520	1450	511	4360	14400	1290	198	525
12	88	825	7410	2270	2350	1350	588	3780	16000	1080	258	513
13	82	715	8530	2030	2270	1240	769	3220	15900	944	357	1180
14	80	723	8620	1860	2240	1060	943	2900	14900	840	368	1090
15	125	853	8780	1680	2260	900	1090	2800	13200	754	289	824
16	235	984	8680	1520	2330	800	1230	2830	11300	680	237	687
17	407	998	8490	1380	2460	850	1400	3020	10100	619	213	481
18	356	1400	8160	1290	2640	800	1550	4270	8770	554	200	318
19	503	2090	7750	1210	2870	800	1710	4430	7710	495	190	262
20	731	2220	7280	1140	3310	835	2190	4660	6730	441	178	236
21	486	2310	6790	1090	3750	828	2260	4350	6090	407	167	237
22	488	2330	6270	1070	4080	821	2320	4320	5780	400	161	395
23	617	2150	5670	1070	4310	806	2530	4360	5470	342	159	664
24	564	2280	5120	1100	4440	794	2850	4350	4990	317	165	558
25	533	3090	4690	1140	4430	781	3210	4660	4380	300	166	438
26	739	2930	4340	1170	4250	771	3510	4980	4010	276	171	332
27	927	3160	4160	1150	4030	775	3710	5120	7180	254	186	277
28	1950	3470	4080	1150	3810	761	3890	5340	7750	241	193	279
29	2970	3780	4090	1140	---	725	4060	5680	8390	231	194	259
30	4730	4490	4160	1090	---	671	4170	5870	8070	223	191	248
31	5450	---	4240	1030	---	621	---	6160	---	215	181	---
TOTAL	23315	67628	210640	65840	95647	41329	49596	153860	260580	48023	6295	13500
MEAN	752	2254	6795	2124	3416	1333	1653	4963	8686	1549	203	450
MAX	5450	4490	9780	4260	7500	3550	4170	7460	16000	7020	368	1180
MIN	80	715	4080	1030	950	621	455	2800	4010	215	159	182
AC-FT	46250	134100	417800	130600	189700	81980	98370	305200	516900	95250	12490	26780

CAL YR 1985 TOTAL 823106 MEAN 2255 MAX 9840 MIN 62 AC-FT 1633000
WTR YR 1986 TOTAL 1036253 MEAN 2839 MAX 16000 MIN 80 AC-FT 2055000

08033500 NECHES RIVER NEAR ROCKLAND, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1945 to September 1947. Chemical and biochemical analyses: December 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV												
21...	1425	2330	160	6.40	17.5	120	33	7.5	78	2.3	29	16
JAN												
08...	1335	3210	185	6.70	8.0	40	13	10.0	--	0.9	34	27
FEB												
20...	1648	3410	160	6.70	18.5	70	32	8.8	94	2.0	28	20
APR												
03...	0910	545	223	6.90	20.0	60	19	8.8	97	1.8	42	24
MAY												
15...	1425	2800	178	6.20	24.0	100	30	7.8	93	1.8	36	15
AUG												
27...	1725	192	200	7.10	30.0	80	26	6.9	--	1.8	34	11

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV											
21...	7.0	2.9	17	1	4.7	13	32	21	0.1	13	110
JAN											
08...	6.9	4.1	19	1	3.9	7	29	30	0.1	11	110
FEB											
20...	6.3	3.1	17	1	3.9	8	28	24	<0.1	9.3	96
APR											
03...	8.9	4.8	24	2	3.4	18	30	32	0.1	10	120
MAY											
15...	7.9	4.0	16	1	3.8	21	26	21	0.1	10	100
AUG											
27...	7.3	3.8	22	2	3.8	23	24	29	0.2	11	120

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)
NOV											
21...	47	6	--	0.03	<0.10	0.08	0.82	0.9	0.14	15	1
JAN											
08...	--	16	--	0.01	<0.10	0.03	0.57	0.6	0.02	6.3	--
FEB											
20...	43	2	--	<0.01	<0.10	0.03	0.77	0.8	0.08	14	--
APR											
03...	23	4	--	<0.01	<0.10	0.03	0.47	0.5	0.06	9.6	--
MAY											
15...	27	2	0.17	0.03	0.20	0.09	0.81	0.9	0.12	15	--
AUG											
27...	16	10	0.08	0.02	0.10	0.05	0.45	0.5	0.05	7.6	1

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV											
21...	51	2	<10	2	500	1	130	0.1	<1	<1	38
JAN											
08...	--	--	--	--	--	--	--	--	--	--	--
FEB											
20...	--	--	--	--	--	--	--	--	--	--	--
APR											
03...	--	--	--	--	--	--	--	--	--	--	--
MAY											
15...	--	--	--	--	--	--	--	--	--	--	--
AUG											
27...	43	4	<10	5	600	<5	19	<0.1	<1	<1	27

08033900 EAST FORK ANGELINA RIVER NEAR CUSHING, TX

LOCATION.--Lat 31°51'36", long 94°49'23", Rusk County, Hydrologic Unit 12020004, near left bank at downstream side of bridge on Farm Road 225, 0.1 mi downstream from Everett Branch, 0.9 mi upstream from Reagan Branch, 3.5 mi north of Cushing, and 8 mi upstream from Angelina River.

DRAINAGE AREA.--158 mi^2.

PERIOD OF RECORD.--January 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 275.29 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. No known diversion above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--22 years, 116 ft^3/s (9.98 in/yr), 84,040 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,500 ft^3/s Apr. 12, 1980 (gage height, 13.34 ft) from rating curve extended above 4,600 ft^3/s on basis of area-velocity study; minimum, 0.7 ft^3/s Aug. 14, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,350 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 25	0400	4,990	11.07	June 9	2300	*9,050	*11.90
Dec. 12	1700	1,580	10.14				

Minimum discharge, 8.4 ft^3/s Oct. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	419	337	101	67	53	33	48	581	60	16	17
2	18	229	267	96	68	54	35	211	329	56	15	53
3	12	134	207	93	71	55	35	313	151	64	15	42
4	11	105	168	91	223	55	34	249	105	106	19	28
5	11	78	151	88	264	52	33	105	137	75	19	23
6	10	65	137	84	225	51	32	68	289	55	17	25
7	11	58	127	85	168	49	32	56	411	53	18	41
8	11	52	122	85	123	48	31	49	356	54	18	32
9	10	48	120	81	111	49	30	76	2190	47	16	26
10	9.8	48	117	83	128	50	28	183	4350	46	15	22
11	9.4	93	439	82	137	51	29	310	1440	40	27	21
12	8.8	105	1300	77	118	55	76	221	682	37	52	21
13	8.8	78	1110	76	100	57	126	108	429	34	48	18
14	11	62	694	75	95	52	70	72	224	32	27	17
15	14	56	444	73	92	50	44	57	156	30	21	16
16	19	54	239	73	88	48	33	50	154	29	21	17
17	19	58	186	81	89	47	29	110	354	28	21	26
18	18	68	165	127	85	47	27	445	273	26	19	23
19	31	63	150	136	79	67	31	493	266	23	16	19
20	63	55	140	99	76	55	225	281	272	22	15	22
21	45	49	132	86	73	44	231	116	161	21	14	22
22	216	47	127	80	68	40	107	82	119	20	13	62
23	374	46	126	73	65	41	59	66	100	21	13	44
24	256	1340	121	70	62	41	46	56	87	20	14	30
25	81	3830	112	72	60	39	40	61	79	19	20	23
26	47	2090	104	72	60	39	37	216	72	18	20	21
27	37	1280	105	68	59	38	35	146	99	17	16	23
28	55	1160	108	65	56	38	68	90	101	17	47	24
29	190	703	106	67	---	37	69	78	77	17	48	29
30	261	419	103	67	---	36	44	64	67	16	24	30
31	425	---	103	66	---	34	---	421	---	16	18	---
TOTAL	2328.8	12892	7867	2572	2910	1472	1749	4901	14111	1119	682	817
MEAN	75.1	430	254	83.0	104	47.5	58.3	158	470	36.1	22.0	27.2
MAX	425	3830	1300	136	264	67	231	493	4350	106	52	62
MIN	8.8	46	103	65	56	34	27	48	67	16	13	16
CFSM	.48	2.72	1.61	.53	.66	.30	.37	1.00	2.97	.23	.14	.17
IN.	.55	3.04	1.85	.61	.69	.35	.41	1.15	3.32	.26	.16	.19
AC-FT	4620	25570	15600	5100	5770	2920	3470	9720	27990	2220	1350	1620

CAL YR 1985 TOTAL 54725.4 MEAN 150 MAX 3830 MIN 5.2 CFSM .95 IN. 12.88 AC-FT 108500
WTR YR 1986 TOTAL 53420.8 MEAN 146 MAX 4350 MIN 8.8 CFSM .92 IN. 12.58 AC-FT 106000

08034000 LAKE TYLER NEAR WHITEHOUSE, TX

LOCATION.--Lat 32°14'30", long 95°10'33", Smith County, Hydrologic Unit 12020004, at city of Tyler pumphouse, 2.0 mi north of Whitehouse Dam on Prairie Creek, 3.0 mi northwest of Mud Creek, and 3.2 mi northeast of Whitehouse.

DRAINAGE AREA.--107 mi². Prior to May 29, 1968, 45.3 mi².

PERIOD OF RECORD.--March 1949 to September 1986 (discontinued).

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 3, 1949, nonrecording gage at dam. May 3, 1949, to July 11, 1951, nonrecording gage at pumphouse. July 12, 1951, to Feb. 1, 1968, water-stage recorder at intake tower in lake 660 ft south of pumphouse. All gages at same datum.

REMARKS.--Originally Lake Tyler was formed by Whitehouse Dam. Deliberate impoundment began Jan. 8, 1949, and the dam was completed May 13, 1949. Construction of Mud Creek Dam began Feb. 11, 1966, and deliberate impoundment began Nov. 22, 1966; final completion of dam was in January 1967. Whitehouse Dam is a rolled earthfill dam with an uncontrolled concrete spillway 200 ft wide near left end of dam. Mud Creek Dam is a rolled earthfill dam with an uncontrolled concrete spillway 300 ft wide near center of dam. On May 29, 1968, the lakes were joined through an interconnecting canal. An 18-inch conduit through the embankment of Mud Creek Dam serves as a low-flow outlet. Water is used for municipal supply for the cities of Tyler, Troop, and Whitehouse. The dam is owned and operated by the city of Tyler. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	390.0 to 391.5	-
Design flood..	386.0	-
Crest of spillways..	375.4	80,900
Bottom of interconnecting canal between lakes..........................	355.0	14,480
Lowest gated outlet (invert at Mud Creek Dam)...........................	350.0	7,200

COOPERATION.--The capacity tables, furnished by the city of Tyler, are based on surveys made in 1948-49 and 1966-67.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 87,340 acre-ft Feb. 3, 1975 (elevation, 376.71 ft); maximum elevation, 378.3 ft Apr. 24, 1966, prior to adjoining of lakes; minimum contents since joining of lakes, 63,100 acre-ft Nov. 13, 1978 (elevation, 371.44 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 88,300 acre-ft Feb. 4 at 0600 to 1000 hours (elevation, 376.90 ft); minimum, 63,750 acre-ft Oct. 14 (elevation, 371.59 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

371.0	61,270	373.0	69,820	375.0	79,000
372.0	65,470	374.0	74,330	377.0	88,800

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65050	68380	80930	81310	81120	81220	80930	82130	83000	80350	75960	72080
2	64970	68510	81170	81360	81120	81170	80880	82370	82660	80300	75730	72030
3	64840	68560	81360	81360	87310	81170	80880	82280	82760	80210	75730	72080
4	64710	68560	81410	81310	86760	81220	80930	82080	82420	80110	75640	72170
5	64460	68510	81410	81220	84720	81220	83340	81890	82280	80060	75450	72300
6	64420	68470	81460	81170	83580	81220	83290	81840	82080	79960	75360	72390
7	64130	68470	81410	81170	82950	81170	82810	81650	81990	79870	75170	72440
8	64210	68340	81410	81120	82620	81220	82420	81650	81890	79720	74940	72390
9	64130	68340	81460	81070	82520	81170	82130	81840	82180	79560	74800	72300
10	64040	68860	81650	81120	82280	81220	81890	82370	82180	79430	74660	72120
11	63960	71760	84820	81120	82130	81220	81650	82420	82180	79190	74750	72300
12	63790	72120	84120	81170	82040	81410	82230	82130	82130	79000	74700	72170
13	63790	72300	83240	81170	81890	81410	82080	81940	81890	78860	74520	72030
14	64290	72350	82810	81170	81890	81410	81890	81700	81650	78810	74380	71850
15	64250	72440	82470	81170	81890	81410	81700	81650	81550	78630	74190	71850
16	64250	72440	82280	81170	81890	81410	81600	81550	81840	78440	74010	71890
17	64290	72620	82130	81410	81890	81310	81510	83820	81990	78350	73920	71800
18	64840	72710	81990	81410	81890	81550	81410	84070	81940	78160	73830	71670
19	66170	72890	81890	81410	81890	81510	82330	83100	81800	77970	73700	71580
20	66250	72890	81800	81460	81700	81360	82570	82660	81650	77930	73470	71440
21	66250	72890	81750	81410	81600	81270	82370	82280	81510	77690	73340	71490
22	66340	72890	81650	81410	81510	81170	82080	81990	81410	77650	73160	71440
23	66340	73160	81600	81410	81510	81170	81890	81890	81270	77460	73110	71350
24	66340	75960	81510	81360	81550	81170	81650	81890	81120	77270	73110	71220
25	66340	76990	81410	81310	81510	81170	81600	81890	81120	77090	73020	71260
26	66120	77370	81310	81170	81510	81170	81460	81800	80930	76900	72890	71170
27	66080	78490	81360	81120	81410	81170	81940	81700	80880	76810	72710	71040
28	66950	78770	81360	81070	81220	81120	82180	81700	80740	76670	72660	71170
29	67210	79000	81360	81120	---	81020	82040	81600	80640	76480	72530	70990
30	68040	79820	81310	81120	---	81020	81890	82230	80490	76200	72300	70950
31	68380	---	81310	81120	---	80980	---	82860	---	76060	72260	---
MAX	68380	79820	84820	81460	87310	81550	83340	84070	83000	80350	75960	72440
MIN	63790	68340	80930	81070	81120	80980	80880	81550	80490	76060	72260	70950
(†)	372.67	375.17	375.48	375.44	375.46	375.41	375.60	375.80	375.31	374.37	373.54	373.25
(‡)	+3160	+11440	+1490	-190	+100	-240	+910	+970	-2370	-4430	-3800	-1310
(††)	1390	1442	999	1072	1002	1256	1056	1157	1087	2038	1892	1244

CAL YR 1985 MAX 84820 MIN 63790 (‡) +9190 (††) 15646
WTR YR 1986 MAX 87310 MIN 63790 (‡) +5730 (††) 15335

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.
(††) Diversions, in acre-feet, for municipal use by city of Tyler.

08036500 ANGELINA RIVER NEAR ALTO, TX

LOCATION.--Lat 31°40'10", long 94°57'24", Nacogdoches-Cherokee County line, Hydrologic Unit 12020004, near center of rectified channel at downstream side of bridge on State Highway 21, 0.4 mi upstream from Allen Creek, 1.5 mi upstream from Bingham Creek, 7.5 mi east of Alto, and 149.3 mi upstream from mouth.

DRAINAGE AREA.--1,276 mi^2.

PERIOD OF RECORD.--May to August 1940 (discharge measurements only), September 1940 to March 1949 (fragmentary for 1941-42, 1944-49), February 1959 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 204.30 ft above National Geodetic Vertical Datum of 1929. May 9, 1940, to Mar. 31, 1949, nonrecording gage on bridge at natural channel 1,400 ft to right at same datum. Feb. 18 to Sept. 15, 1959, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: June 19-26 and Aug. 7-20. Records good except for estimated daily discharges, which are poor. No large diversion above station. Flow partly regulated since May 1957 by Lake Striker 35.5 mi upstream and by Lake Tyler 69.9 mi upstream since January 1949 (combined capacity, 110,700 acre-ft). Several observations of water temperature were made during the year. Recording rain gage at station. U.S. Army Corps satelite telemeter at station.

AVERAGE DISCHARGE.--28 years (water years 1943, 1960-86), 774 ft^3/s, 560,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,600 ft^3/s Apr. 28, 1966 (gage height, 21.51 ft), but may have been higher during period of no gage-height record in November 1940; minimum, 2.0 ft^3/s Aug. 14, 15, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1905, about 22 ft in May 1908, from information by local residents. Flood in 1932 reached a stage of 21.5 ft, and flood in May 1958 reached a stage of 20.3 ft, from floodmarks and information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,570 ft^3/s Nov. 29 at 1200 to 2300 hours (gage height, 18.01 ft); minimum daily, 40 ft^3/s Sept. 19, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	727	5980	705	404	407	204	634	1270	284	47	99
2	88	764	4960	678	399	393	196	1110	1250	245	47	113
3	101	824	4130	626	439	423	190	979	1280	268	46	109
4	102	843	3800	572	617	446	185	880	1400	353	47	125
5	92	808	3630	533	646	443	181	887	1690	313	48	152
6	88	713	3370	509	753	388	178	921	2020	323	50	151
7	87	584	3020	497	964	345	178	888	2100	275	52	141
8	84	462	2650	483	1710	325	246	808	2300	213	55	145
9	81	337	2300	512	2670	318	323	897	3110	180	55	141
10	80	248	2270	557	3220	313	308	952	3210	166	52	125
11	79	425	2300	574	3260	305	323	1260	3890	150	60	90
12	77	1070	2190	569	3070	304	460	1200	5120	136	80	65
13	75	1520	2260	514	2770	312	685	1200	5300	122	90	56
14	75	2030	2940	459	2420	383	875	1260	4750	110	90	50
15	76	2480	3630	429	2060	435	994	1280	4050	100	85	46
16	80	2610	4140	408	1720	379	1010	1220	3460	91	75	44
17	81	2550	4300	399	1430	325	876	1160	3120	85	68	43
18	82	2410	4010	430	1220	314	617	1510	2740	80	62	41
19	110	2180	3880	585	1070	314	481	1410	3210	76	56	40
20	102	1870	3440	803	952	338	619	1400	3290	72	52	41
21	91	1570	2960	1020	845	408	799	1450	2740	68	48	41
22	1340	1220	2550	1200	756	438	906	1540	2170	65	46	40
23	1500	991	2170	1250	692	362	975	1650	1720	61	45	42
24	640	3270	1840	1150	639	314	1010	1780	1360	58	45	59
25	508	3940	1540	951	559	310	913	1900	1050	57	44	88
26	505	3270	1280	746	498	294	752	1930	810	55	68	81
27	482	4020	1040	616	465	265	684	1840	640	54	94	70
28	423	5860	866	526	435	242	727	1770	459	55	96	61
29	374	6500	756	465	---	229	726	1690	354	55	90	57
30	463	6330	719	426	---	220	665	1540	322	52	90	57
31	732	---	719	409	---	211	---	1370	---	49	105	---
TOTAL	8779	62426	85640	19601	36683	10503	17286	40316	70185	4271	1988	2413
MEAN	283	2081	2763	632	1310	339	576	1301	2340	138	64.1	80.4
MAX	1500	6500	5980	1250	3260	446	1010	1930	5300	353	105	152
MIN	75	248	719	399	399	211	178	634	322	49	44	40
AC-FT	17410	123800	169900	38880	72760	20830	34290	79970	139200	8470	3940	4790
(++)	16.60	9.10	3.15	.36	1.67	.41	3.10	10.00	6.35	1.18	2.49	3.45

CAL YR 1985 TOTAL 315978 MEAN 866 MAX 6500 MIN 18 AC-FT 626700 ++ 56.24
WTR YR 1986 TOTAL 360091 MEAN 987 MAX 6500 MIN 40 AC-FT 714200 ++ 57.86

++ Rainfall, in inches.

08036700 LAKE NACOGDOCHES NEAR NACOGDOCHES, TX

LOCATION.--Lat 31°35'19", long 94°49'31", Nacogdoches County, Hydrologic Unit 12020004, at upstream side of dam on Bayou Loco near service outlet tower and 10 mi west of Nacogdoches.

DRAINAGE AREA.--87.9 mi².

PERIOD OF RECORD.--March 1977 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a rolled earthfill dam. Deliberate impoundment began July 14, 1976. Water is used for industrial and municipal supply by the city of Nacogdoches. The emergency spillway is an uncontrolled 500-foot-wide cut through natural ground located near the right end of dam. There is an uncontrolled drop inlet with a 20.5-foot-diameter top opening that is connected to an 8- by 7-foot conduit that extends through the dam. A separate multi-gated inlet tower is connected to a valve by a 30-inch conduit through the dam. The valve box directs water to a purificiation plant. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	303.0	-
Top of design flood..	298.5	102,900
Crest of spillway..	286.0	59,570
Crest of drop inlet (top of conservation pool).......................	279.0	42,320
Lowest gated outlet (invert of 30 in conduit)........................	238.25	254

COOPERATION.--The capacity table, furnished by the city of Nacogdoches, is based on Geological Survey topographic maps dated 1952.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 53,550 acre-ft June 3, 1979 (elevation, 283.76 ft); minimum since first appreciable storage, 20,540 acre-ft Nov. 26, 1977 (elevation, 266.62 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 52,390 acre-ft Nov. 26 at 0400 to 0800 hours (elevation, 283.31 ft); minimum, 36,580 acre-ft Oct. 14 (elevation, 276.22 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

276.0	36,140	282.0	49,140
279.0	42,320	284.0	54,160

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36920	42670	44660	42150	41770	41830	41430	42150	43020	41980	40790	e39930
2	36920	42520	44110	42150	41770	41750	41430	44370	42910	41940	40730	e39990
3	36880	42470	43760	42170	41960	41750	41450	44090	42760	42910	40690	e39950
4	36820	42320	43480	42040	42390	41810	41430	43690	42690	43260	40650	e39910
5	36760	42260	43210	42040	42490	41790	41430	43320	43800	43040	40650	e39890
6	36720	42170	43020	42040	42490	41770	41430	43040	45190	42730	40600	e39990
7	36720	42040	42870	41960	42450	41770	41430	42820	44460	42580	40580	e40100
8	36700	41960	42760	41960	42360	41730	41430	42650	44280	42390	40560	e40060
9	36680	41870	42650	41940	42360	41730	41430	42650	47120	42240	40450	e40010
10	36660	41870	42580	41940	42320	41730	41410	42950	46560	42190	40480	e39990
11	36620	41870	44600	41940	42340	41710	41390	43240	45680	42070	40480	e39950
12	36600	41870	45380	41940	42280	41750	41640	43040	45090	41900	40480	e39930
13	36600	41900	45220	41940	42190	41750	41640	42870	44090	41900	40480	e39910
14	37000	41850	44430	41940	42170	41680	41680	42600	43650	41850	40450	e39870
15	37140	41830	43960	41940	42150	41680	41680	42540	43320	41750	40390	e39850
16	37140	41850	43630	41900	42150	41710	41680	42390	43580	41710	40350	e39830
17	37100	41900	43370	41900	42150	41620	41620	43210	43910	41640	40310	e39830
18	37100	41900	43170	41900	42130	e41580	41600	44020	43610	41560	40280	e39830
19	37340	41850	42970	41830	42130	e41580	41730	43780	43300	41540	40220	e39810
20	37340	41830	42820	41830	42110	e41560	42000	43500	43020	41410	40100	e39770
21	37280	41810	42690	41810	42000	e41560	42040	43150	42800	41410	40040	e39750
22	40900	41770	42600	41830	42000	e41540	42040	42870	42580	41410	40040	e39790
23	41510	41730	42540	41830	41980	e41510	41940	42760	42520	41300	40010	e39770
24	41580	49980	42390	41850	41960	e41490	41900	42690	42360	41300	40120	e39750
25	41580	52210	42320	41810	41960	e41470	41770	42600	42280	41200	40120	e39730
26	41560	50640	42320	41770	41940	41450	41770	42540	42210	41180	40100	e39690
27	41320	48960	42300	41750	41900	41430	41850	42580	42210	41070	40060	e39660
28	41620	48000	42280	41750	41830	41430	41940	42600	42210	41050	40040	e39690
29	41680	46430	42260	41790	---	41450	41920	42560	42150	40980	39950	e39710
3	42430	45190	42210	41790	---	41450	41900	42490	42070	40940	39910	e39690
31	42690	---	42150	41770	---	41450	---	43020	---	40880	e39870	---
MAX	42690	52210	45380	42170	42490	41830	42040	44370	47120	43260	40790	40100
MIN	36600	41730	42150	41750	41770	41430	41390	42150	42070	40880	39870	39660
(†)	279.17	280.21	278.92	278.74	278.77	278.59	278.80	279.32	278.88	278.32	277.84	277.75
(‡)	+5670	+2500	-3040	-380	+60	-380	+450	+1120	-950	-1190	-1010	-180
(††)	223	157	182	176	162	193	216	214	232	333	331	348

CAL YR 1985 MAX 52210 MIN 36600 (‡) -60 (††) 2989
WTR YR 1986 MAX 52210 MIN 36600 (‡) +2670 (††) 2767

(†) Elevation, in feet, at end of month.
(‡) Change in contents in acre-feet.
(††) Diversions, in acre-feet, for municipal use by city of Nacogdoches.

e Estimated.

08037050 BAYOU LANANA AT NACOGDOCHES, TX

LOCATION.--Lat 31°36'58", long 94°38'28", Nacogdoches County, Hydrologic Unit 12020005, on right bank at downstream side of bridge on Farm Road 1878 in Nacogdoches and 14.5 mi upstream from mouth.

DRAINAGE AREA.--31.3 mi².

PERIOD OF RECORD.--October 1964 to September 1986 (discontinued).

GAGE.--Water-stage recorder. Prior to July 1974, concrete control. Datum of gage is 264.23 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. No diversion above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--22 years, 31.7 ft³/s (13.75 in/yr), 22,970 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,500 ft³/s June 2, 1979 (gage height, 22.18 ft), from rating curve extended above 2,800 ft³/s on basis of indirect measurement of peak flow; no flow at times.
Maximum stage since at least 1956, that of June 2, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 22	2030	2,370	16.34	June 8	1900	2,700	16.71
Nov. 24	1600	4,520	18.01	June 9	0900	*7,400	*19.55
Nov. 25	1900	2,330	16.29	July 3	1200	1,240	13.94

Minimum discharge, 060 ft³/s Aug. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.98	50	184	16	7.3	7.3	3.0	42	38	15	1.4	14
2	.90	42	65	16	7.4	7.7	2.9	252	23	12	1.4	7.5
3	1.0	37	50	16	19	7.8	2.8	50	16	276	1.6	2.5
4	.84	25	43	15	51	7.5	2.7	25	14	62	1.9	1.6
5	.73	20	37	13	33	7.1	2.7	17	98	36	1.5	2.4
6	.71	17	33	13	42	6.7	2.6	14	123	23	1.1	17
7	.79	15	30	15	23	6.2	2.3	11	64	19	1.2	5.0
8	.84	13	29	13	18	6.2	2.3	9.4	800	17	.84	2.0
9	.83	13	27	15	29	6.4	2.0	28	3170	15	.88	1.5
10	.89	12	26	17	35	6.5	4.8	72	159	13	.86	9.0
11	.82	13	341	15	31	6.7	2.7	61	128	12	13	3.3
12	.90	12	170	13	22	8.5	36	24	89	9.9	5.2	1.9
13	1.1	11	121	13	18	6.2	8.3	16	62	8.7	2.2	1.8
14	10	10	63	13	18	5.8	4.1	12	48	7.8	1.3	1.0
15	39	9.6	52	12	16	5.5	2.7	9.8	37	7.1	1.1	.98
16	2.3	33	45	12	16	5.1	2.3	9.8	79	6.6	1.2	.98
17	1.4	53	41	12	16	4.8	2.0	93	159	5.9	.97	1.2
18	6.5	26	37	12	14	8.9	2.0	134	53	5.2	.95	1.1
19	9.7	19	33	12	13	5.8	25	39	48	5.0	.87	2.9
20	3.2	14	30	11	13	4.3	72	23	37	4.5	.85	1.3
21	1.6	13	28	10	11	4.0	13	17	30	7.3	.79	2.1
22	641	12	27	9.1	10	4.0	5.6	14	28	4.9	2.8	2.3
23	153	12	26	8.3	9.8	4.1	3.8	12	27	4.0	2.2	1.2
24	16	1650	24	8.5	9.4	4.0	3.1	27	25	3.3	14	1.1
25	8.5	1010	20	9.4	9.3	3.9	2.7	25	24	2.7	4.1	1.2
26	6.3	249	20	8.1	9.1	3.9	2.4	23	60	2.7	1.3	.93
27	5.7	236	21	7.2	8.6	3.8	22	27	56	2.2	1.0	.82
28	64	113	20	7.5	7.7	3.7	35	18	25	2.0	8.6	5.0
29	58	63	19	7.4	---	3.9	8.8	13	19	1.8	2.3	2.7
30	462	53	18	7.0	---	3.5	5.3	21	20	1.6	1.1	1.3
31	135	---	19	7.2	---	3.1	---	89	---	1.5	1.1	---
TOTAL	1634.53	3855.6	1700	363.7	516.6	172.9	286.9	1228.0	5559	594.7	79.61	97.61
MEAN	52.7	129	54.8	11.7	18.4	5.58	9.56	39.6	185	19.2	2.57	3.25
MAX	641	1650	341	17	51	8.9	72	252	3170	276	14	17
MIN	.71	9.6	18	7.0	7.3	3.1	2.0	9.4	14	1.5	.79	.82
CFSM	1.68	4.12	1.75	.37	.59	.18	.31	1.27	5.91	.61	.08	.10
IN.	1.94	4.58	2.02	.43	.61	.21	.34	1.46	6.61	.71	.09	.12
AC-FT	3240	7650	3370	721	1020	343	569	2440	11030	1180	158	194

CAL YR 1985 TOTAL 15652.50 MEAN 42.9 MAX 1650 MIN .11 CFSM 1.37 IN. 18.60 AC-FT 31050
WTR YR 1986 TOTAL 16089.15 MEAN 44.1 MAX 3170 MIN .71 CFSM 1.41 IN. 19.12 AC-FT 31910

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX

LOCATION.--Lat 31°03'38", long 94°06'21", Jasper County, Hydrologic Unit 12020005, in the powerhouse-intake structure of Sam Rayburn Dam on the Angelina River, 10 mi northwest of Jasper, and 25.2 mi upstream from mouth.

DRAINAGE AREA.--3,449 mi².

PERIOD OF RECORD.--January 1965 to current year.

GAGE.--Stevens-type AP recording transmitter. Datum of gage is National Geodetic Vertical Datum of 1929 (level by U.S. Army Corps of Engineers). Prior to Apr. 20, 1965, nonrecording gage at same site and datum.

REMARKS.--The reservoir is formed by a rolled earthfill dam 19,430 ft long, including spillway and dikes. The dam was completed and deliberate impoundment began Mar. 29, 1965. The spillway is an uncontrolled broad-crested weir 2,200 ft wide, on right bank 7,000 ft to right of outlet works, and is designed to discharge 125,300 ft³/s at maximum flood design. The flood-control outlet works consists of two 10.0- by 20.0-foot rectangular concrete-lined conduits controlled by two 10.0- by 20.0-foot tractor-type service gates and one 10.0- by 20.0-foot tractor-type emergency gate. Water for turbines is admitted through four 18.0- by 26.0-foot penstocks and controlled by two wheeled-leaf-type headgates. The reservoir is operated for flood control and power generation. The area-capacity tables are based on topographic maps prepared by the U.S. Army Corps of Engineers and detailed sedimentation ranges established in 1961 and dated February 1965. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08038000. Gage-height telemeter at station. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	190.0	-
Design flood..	183.0	5,610,000
Crest of spillway..	176.0	4,442,400
Top of flood-control pool..	173.0	3,997,600
Top of conservation pool (power pool)..............................	164.0	2,852,600
Top of power head and sediment pool..............................	149.0	1,452,000
Lowest gated outlet (invert)..	105.0	21,940

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,881,000 acre-ft Feb. 7, 1974 (elevation, 172.17 ft); minimum since conservation storage was reached in 1968, 1,797,000 acre-ft Nov. 15, 1977 (elevation, 153.35 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 3,451,000 acre-ft July 4 at 0800 hours (elevation, 168.96 ft); minimum daily, 2,102,000 acre-ft Oct. 25 at 2400 hours (elevation, 156.76 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

156.0	2,032,000	162.0	2,631,000	168.0	3,329,000
159.0	2,319,000	165.0	2,967,000	169.0	3,456,000

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2182000	2223000	2500000	2912000	2926000	2896000	2864000	2891000	3009000	3423000	2980000	2823000
2	2171000	2236000	2511000	2917000	2929000	2891000	2864000	2903000	3009000	3431000	2967000	2816000
3	2162000	2238000	2519000	2919000	2933000	2896000	2856000	2906000	3005000	3448000	2967000	2812000
4	2159000	2245000	2552000	2933000	2992000	2896000	2850000	2906000	3019000	3443000	2957000	2805000
5	2153000	2250000	2564000	2921000	3007000	2896000	2854000	2912000	3024000	3439000	2949000	2801000
6	2150000	2256000	2575000	2921000	3022000	2898000	2855000	2917000	3032000	3436000	2937000	2809000
7	2139000	2261000	2588000	2929000	3027000	2898000	2847000	2921000	3042000	3427000	2929000	2805000
8	2134000	2262000	2600000	2929000	3026000	2898000	2848000	2923000	3067000	3415000	2920000	2798000
9	2129000	2266000	2612000	2934000	3026000	2899000	2836000	2933000	3117000	3394000	2913000	2791000
10	2122000	2273000	2621000	2936000	3022000	2903000	2838000	2945000	3179000	3377000	2915000	2786000
11	2114000	2263000	2678000	2936000	3014000	2903000	2828000	2951000	3252000	3357000	2923000	2779000
12	2115000	2267000	2716000	2942000	3008000	2912000	2846000	2952000	3282000	3339000	2915000	2781000
13	2115000	2264000	2746000	2942000	2984000	2912000	2842000	2952000	3302000	3321000	2915000	2774000
14	2115000	2259000	2756000	2941000	2977000	2920000	2848000	2945000	3318000	3302000	2912000	2773000
15	2127000	2262000	2771000	2936000	2963000	2919000	2840000	2953000	3331000	3283000	2912000	2766000
16	2118000	2262000	2784000	2937000	2953000	2915000	2832000	2947000	3351000	3263000	2911000	2757000
17	2113000	2262000	2796000	2936000	2947000	2902000	2821000	2987000	3373000	3246000	2905000	2754000
18	2108000	2262000	2811000	2937000	2944000	2910000	2821000	2992000	3390000	3225000	2899000	2746000
19	2115000	2268000	2816000	2937000	2944000	2910000	2830000	2987000	3395000	3206000	2888000	2742000
20	2117000	2275000	2827000	2935000	2938000	2903000	2846000	2987000	3400000	3184000	2881000	2743000
21	2110000	2276000	2834000	2933000	2938000	2891000	2851000	2983000	3400000	3159000	2874000	2752000
22	2110000	2280000	2847000	2937000	2935000	2883000	2851000	2978000	3396000	3141000	2866000	2760000
23	2110000	2283000	2858000	2928000	2933000	2881000	2848000	2978000	3394000	3119000	2863000	2750000
24	2109000	2303000	2874000	2926000	2926000	2878000	2850000	2987000	3385000	3099000	2859000	2743000
25	2102000	2319000	2875000	2940000	2918000	2873000	2850000	2992000	3375000	3078000	2854000	2732000
26	2106000	2339000	2881000	2950000	2918000	2872000	2853000	2999000	3378000	3068000	2853000	2724000
27	2123000	2378000	2891000	2933000	2918000	2866000	2858000	3001000	3402000	3053000	2848000	2724000
28	2148000	2415000	2896000	2926000	2911000	2866000	2870000	3001000	3413000	3038000	2841000	2726000
29	2169000	2443000	2900000	2928000	---	2864000	2870000	2997000	3418000	3024000	2836000	2714000
30	2208000	2464000	2904000	2925000	---	2864000	2874000	3006000	3420000	3008000	2836000	2706000
31	2209000	---	2912000	2922000	---	2864000	---	3006000	---	2992000	2825000	---
MAX	2209000	2464000	2912000	2950000	3027000	2920000	2874000	3006000	3420000	3448000	2980000	2823000
MIN	2102000	2223000	2500000	2912000	2911000	2864000	2821000	2891000	3005000	2992000	2825000	2706000
(†)	157.88	160.42	164.52	164.61	164.51	164.10	164.19	165.33	168.72	165.21	163.76	162.69
(ϕ)	+18000	+255000	+448000	+10000	-11000	-47000	+10000	+132000	+414000	-482000	-167000	-119000

CAL YR 1985 MAX 3249000 MIN 2102000 (ϕ) +335000
WTR YR 1986 MAX 3448000 MIN 2102000 (ϕ) +515000

(†) Elevation, in feet, at end of month.
(ϕ) Change in contents, in acre-feet.

08040000 B. A. STEINHAGEN LAKE AT TOWN BLUFF, TX

LOCATION.--Lat 30°47'43", long 94°10'48", Tyler County, Hydrologic Unit 12020003, near right bank 70 ft upstream from outlet structure of Town Bluff Dam on Neches River, 0.4 mi north of Town Bluff, and at mile 113.7.

DRAINAGE AREA.--7,573 mi².

PERIOD OF RECORD.--April 1951 to current year. Prior to October 1967, published as Dam B Reservoir at Town Bluff.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 25, 1954, at site 490 ft upstream at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam with concrete spillway sections. The total length of dam is 6,698 ft, including a concrete spillway and non-overflow section. Deliberate impoundment of water began Apr. 16, 1951, and the dam was completed in June 1951. The uncontrolled spillway is 6,100 ft long. A 326-foot-long gated service spillway with six 40.0- by 35.0-foot tainter gates is located near right end of dam. The capacity of the spillways at maximum flood design is 218,300 ft³/s. The capacity table is based on a survey made in 1945. Water is used for industrial, municipal and irrigation supplies. Gage-height telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet	Capacity (acre-feet)
Top of dam (nonoverflow)...	95.0	-
Design flood..	93.0	306,400
Crest of uncontrolled spillway (top of tainter gates)...............	85.0	124,700
Top of conservation pool..	83.0	94,200
Bottom of tainter gates (sill)......................................	50.0	0

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 128,400 acre-ft May 22, 1953 (elevation, 85.21 ft); no storage Sept. 18 to Oct. 13, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum daily cntents, 101,900 acre-ft Oct. 28 at 1000 hours (elevation, 83.54 ft); minimum minimum daily, 69,900 acre-ft June 24 at 2000 hours (elevation, 81.02 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

81.0	69,680	83.0	94,250
82.0	81,280	84.0	108,700

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78370	78490	86040	88100	86290	86800	87190	93160	89150	78850	85020	90200
2	81150	76600	87320	89810	83000	85020	84000	98140	85520	76950	81280	89940
3	83000	76010	91670	89680	83500	83750	86550	96740	88890	80540	78970	91270
4	86550	76830	94660	89680	97020	81770	89020	93160	85020	84510	76950	91000
5	81400	78020	93980	87840	96600	81030	86420	90200	86040	87060	77300	91540
6	75660	79090	91670	87840	88760	81030	81890	89540	88100	89020	80420	88230
7	72790	79450	88490	86550	83750	80060	82010	89540	94250	90200	84510	87450
8	76240	79090	84890	84260	80540	78490	82510	88620	96880	86290	86420	87840
9	78020	78370	80910	82010	78130	76480	86040	86680	92750	88890	88100	89280
10	80420	77300	76710	80060	76240	75080	88100	84130	88620	88760	90740	89810
11	82880	80910	84760	79130	76130	72790	87320	79570	86550	87320	93570	90740
12	78490	85650	95210	75660	77300	73470	86040	81520	86290	85400	97720	92890
13	73700	89280	99140	73930	81280	73130	81770	83130	86040	83500	97440	95350
14	75890	93290	95900	74390	86550	71220	84380	84130	85780	81770	93160	91940
15	80060	96600	88100	77540	89940	71330	86550	83500	84380	81150	88490	94940
16	81150	95210	85270	80060	92890	73020	88620	81770	81520	81150	84260	96740
17	82880	92480	85400	82630	95210	74390	91400	79810	78130	81400	83500	97580
18	85520	97020	86160	82510	93160	79210	95080	85780	73700	81770	86550	97720
19	86040	96460	85650	79450	87840	82510	93700	88360	74160	81890	89680	99280
20	81770	91270	84510	80060	90740	86800	92620	91270	71330	81890	90340	94520
21	86800	87840	82010	81890	89680	88620	89410	89150	73020	81890	91000	90600
22	85910	89150	78730	82260	87580	90340	87060	89410	74620	81890	91000	86420
23	89150	91810	78130	82760	85020	90740	86290	89410	72230	81770	82480	88890
24	92890	97720	78610	84510	90740	91400	86290	89150	70560	81520	92350	90340
25	98000	97300	77540	82760	93430	92890	87060	92890	75430	81640	92620	96740
26	96880	92480	76480	79690	89410	97440	87840	90740	88100	78490	94250	100400
27	97860	90740	77900	81770	88100	100400	89940	86800	89940	79210	96460	96460
28	92350	87970	79810	88360	87710	99280	92080	82880	84000	80060	97660	91540
29	83380	84260	81640	90070	---	96460	92750	82140	81770	81280	92890	93020
30	85910	82510	83880	89410	---	93430	92080	89020	80660	82510	88100	93180
31	83380	---	86290	89680	---	90200	---	93430	---	83630	87970	---
MAX	98000	97720	99140	90070	97020	100400	95080	98140	96880	90200	97860	100400
MIN	72790	76010	76480	73930	76130	71220	81770	79570	70560	76950	76950	86420
(†)	82.17	82.10	82.40	82.66	82.51	82.70	82.84	82.94	81.95	82.19	82.52	83.14
(ϕ)	+6430	-870	+3780	+3390	-1970	+2490	+1880	+1350	-12770	+2970	+4340	+8210

CAL YR 1985 MAX 102400 MIN 66440 (ϕ) +5380
WTR YR 1986 MAX 100400 MIN 70560 (ϕ) +19230

(†) Elevation, in feet, at end of month.
(ϕ) Change in contents, in acre-feet.

08040500 NECHES RIVER AT TOWN BLUFF, TX

LOCATION.--Lat 30°47'36", long 94°10'28", Jasper-Tyler County line, Hydrologic Unit 12020003, on left bank 0.3 mi downstream from Town Bluff Dam, 0.5 mi northeast of Town Bluff, 2.5 mi upstream from Walnut Run, 8 mi downstream from Wolf Creek, and at mile 113.4.

DRAIAGE AREA.--7,573 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1951 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 21, 1953, water-stage recorder, and May 21, 1953, to Dec. 3, 1954, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good except those for October and August, which are fair. Flow is regulated by B.A. Steinhagen Lake (station 08040000) 0.3 mi upstream and by Sam Rayburn Reservoir (station 08039300) 37.9 mi upstream. Some diversions upstream from station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years (water years 1952-64) prior to regulation by Sam Rayburn Reservoir, 4,406 ft³/s (3,192,000 acre-ft/yr); 22 years (water years 1965-86) regulated, 4,734 ft³/s (3,430,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90,900 ft³/s May 21, 22, 1953 (elevation, 82.85 ft); no flow at times due to regulation of B. A. Steinhagen Lake.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 1884 reached a stage about 86.8 ft (discharge, about 120,000 ft³/s), and is the highest since that date, from information by the U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,600 ft³/s June 9 at 1400 hours (elevation, 65.64 ft); minimum daily, 1,560 ft³/s Nov. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2800	9150	5920	3460	2740	7470	2190	4820	10800	8660	6210	2620
2	2770	6510	6670	3730	2720	7490	2180	6510	11300	7800	5670	2630
3	2770	4300	6660	4310	2710	6260	2480	9580	11300	7160	5620	2620
4	2770	3150	7820	4610	4910	4040	2790	9490	12500	7190	5180	2810
5	2760	2570	9430	4610	9700	3110	2790	8920	13700	7190	3710	3270
6	2770	2540	9920	4610	12400	2440	2770	8140	13800	7210	2810	3310
7	2760	2530	9900	4620	11000	2410	2750	6800	13700	7210	2610	3300
8	2740	2530	9540	4600	10000	2400	2760	6760	14100	8270	2590	3110
9	2740	2530	8880	4540	9170	2400	2760	6760	15500	9880	2590	2900
10	2740	2520	7680	4310	8240	2320	2800	6740	15200	10400	2580	2900
11	2740	2520	6510	4000	7200	2220	2810	6700	15000	11000	2580	2910
12	2740	2550	8180	3950	7160	2270	2810	5930	14900	10900	2650	2910
13	2730	2570	10800	3460	8620	2350	2800	5160	14600	10900	2600	2900
14	2720	2560	12300	2800	9240	2260	2780	5740	14400	10700	2570	2900
15	2760	2560	11900	2780	9330	2240	2760	6320	14300	10400	2590	2900
16	2830	2710	10900	2780	9780	2220	2760	6280	14200	10200	2620	2910
17	2790	2720	9210	2780	10300	2220	2780	6290	14200	9900	2610	2900
18	2700	2610	8390	2780	10400	2230	2820	6350	12900	9900	2600	2920
19	2470	2940	8330	2770	9230	2220	2970	6380	11400	9910	2600	2930
20	2460	4100	8320	2760	7460	2220	3860	6920	11200	9900	2780	2910
21	2450	4420	8300	2760	7360	2220	4430	7650	11200	9910	2680	2910
22	2480	2410	8270	2750	7350	2230	3650	7650	11200	9910	2690	2910
23	2480	1560	7250	2740	7320	2240	2900	7640	11200	9900	2690	2880
24	2480	2200	5690	2760	7300	2240	2760	7640	11200	9900	2700	2870
25	2480	4900	5520	2740	7460	2240	2850	7660	11200	9580	2690	2850
26	2480	6250	5340	2720	7540	2220	3000	8680	11500	8430	2680	2850
27	2480	6170	4380	2720	7530	2190	3010	9770	13800	6790	2680	2850
28	5390	6420	3500	2740	7510	2200	3030	9810	13200	6440	2690	2850
29	11000	6240	3460	2750	---	2190	3480	8660	10200	6450	2670	2850
30	8890	5770	3460	2740	---	2190	4390	9060	9010	6460	2650	2920
31	9930	---	3450	2740	---	2190	---	9990	---	6450	2630	---
TOTAL	107100	112510	235880	104420	221680	87140	88920	230800	382710	274900	95220	87300
MEAN	3455	3750	7609	3368	7917	2811	2964	7445	12760	8868	3072	2910
MAX	11000	9150	12300	4620	12400	7490	4430	9990	15500	11000	6210	3310
MIN	2450	1560	3450	2720	2710	2190	2180	4820	9010	6440	2570	2620
AC-FT	212400	223200	467900	207100	439700	172800	176400	457800	759100	545300	188900	173200

CAL YR 1985 TOTAL 1863260 MEAN 5105 MAX 13000 MIN 1560 AC-FT 3696000
WTR YR 1986 TOTAL 2028580 MEAN 5558 MAX 15500 MIN 1560 AC-FT 4024000

08040500 NECHES RIVER AT TOWN BLUFF, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 21...	1025	4750	157	6.70	18.0	70	29	10.6	111	1.1	32	15
JAN 08...	1015	4600	163	6.80	8.5	50	22	11.8	--	1.2	23	12
FEB 19...	1415	8720	160	7.50	16.0	50	15	13.0	132	2.2	33	18
APR 01...	1330	2190	172	6.90	19.5	55	23	9.8	106	1.5	35	15
MAY 15...	1028	6290	152	6.30	26.0	100	25	9.0	110	1.9	30	14
AUG 26...	1525	2670	167	7.60	29.5	20	7.3	7.7	--	1.1	33	11

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
NOV 21...	7.8	3.1	16	1	3.3	17	24	21	0.1	14	100
JAN 08...	7.1	1.4	18	2	3.6	11	19	25	0.1	15	96
FEB 19...	7.4	3.5	17	1	2.9	15	24	22	<0.1	9.3	95
APR 01...	7.9	3.7	19	1	3.0	20	24	22	<0.1	9.2	100
MAY 15...	7.1	3.1	14	1	3.6	16	24	17	0.1	9.4	88
AUG 26...	7.6	3.4	17	1	2.5	22	21	20	0.1	9.5	94

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
NOV 21...	23	5	0.03	<0.10	0.07	0.43	0.5	0.07	4.1	1	53
JAN 08...	33	9	0.01	<0.10	0.04	0.46	0.5	0.87	6.8	--	--
FEB 19...	16	3	<0.01	<0.10	0.03	0.47	0.5	0.07	9.7	--	--
APR 01...	21	2	0.07	<0.50	0.04	0.36	0.4	0.04	6.5	--	--
MAY 15...	19	8	0.02	<0.10	0.06	0.74	0.8	0.07	14	--	--
AUG 26...	5	3	<0.01	<0.10	0.04	0.36	0.4	0.03	7.1	<1	49

DATE	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
NOV 21...	<1	<10	2	160	<1	13	<0.1	24	<1	<1	40
JAN 08...	--	--	--	--	--	--	--	--	--	--	--
FEB 19...	--	--	--	--	--	--	--	--	--	--	--
APR 01...	--	--	--	--	--	--	--	--	--	--	--
MAY 15...	--	--	--	--	--	--	--	--	--	--	--
AUG 26...	1	<10	3	82	<5	4	<0.1	--	<1	<1	45

08041000 NECHES RIVER AT EVADALE, TX
(National stream-quality accounting network)

LOCATION.--Lat 30°21'20", long 94°05'35", Jasper-Hardin County line, Hydrologic Unit 12020003, near center of channel on downstream side of pier of bridge on U.S. Highway 96 at Evadale, 0.8 mi upstream from Mill Creek, 16 mi upstream from Village Creek, and at mile 55.6.

DRAINAGE AREA.--7,951 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1904 to December 1906, April 1921 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 718: 1929. WSP 1342: 1905-7, 1924. WSP 1732: Drainage area at former site.

GAGE.--Water-stage recorder. Datum of gage is 8.25 ft above National Geodetic Vertical Datum of 1929. July 1, 1904, to Dec. 31, 1906, nonrecording gage on Gulf, Colorado, and Santa Fe Railway Co. bridge at site 1.2 mi downstream at datum 5.50 ft lower; Apr. 1, 1921, to Dec. 7, 1948, nonrecording gages at site 1.2 mi downstream at present datum; Dec. 8, 1948, to Nov. 8, 1963, water-stage recorder at site 1.2 mi downstream at present datum.

REMARKS.--No estimated daily discharges. Records good except those for October and August, which are fair. Flow is regulated by B.A. Steinhagen Lake (station 08040000) 58.1 mi upstream, capacity 124,700 acre-ft, and by Sam Rayburn Reservoir (station 08039300), 95.7 mi upstream, capacity 4,442,000 acre-ft. Some diversions upstream for municipal use. Gage-height telemeter at station.

AVERAGE DISCHARGE.--45 years (water years 1905-6, 1922-64) unregulated, 6,308 ft^3/s (4,570,000 acre-ft/yr); 22 years (water years 1965-86) regulated, 5,327 ft^3/s (3,859,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 92,100 ft^3/s May 11, 1944 (gage height, 23.58 ft, from floodmark), at site then in use; minimum daily, 63 ft^3/s Nov. 26-28, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1884 reached a stage of 26.2 ft, at former site, with a discharge of about 125,000 ft^3/s, and flood in August 1915 reached a stage of 24.5 ft, at former site, with a discharge of about 102,000 ft^3/s. These are the highest floods since at least 1884. Stages furnished by Gulf, Colorado, and Santa Fe Railway Co.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,400 ft^3/s June 12 at 1300 hours (gage height, 16.71 ft); minimum daily, 2,060 ft^3/s Nov. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2870	12200	7040	4050	2990	8250	2390	4200	9930	13300	6720	2670
2	2840	12400	6640	4000	2990	8270	2380	5000	10400	11500	6650	2680
3	2790	11300	6870	4080	2990	8230	2350	5840	11000	11100	6320	2700
4	2760	8490	7220	4450	3360	8110	2470	7560	11600	9730	6030	2690
5	2750	5610	7450	4800	4740	6610	2870	9100	12200	8120	5820	2730
6	2740	3810	8240	4990	7110	4940	3020	9710	13100	7570	5070	3200
7	2740	3150	9260	5050	9610	3700	3040	9590	14300	7370	3970	3460
8	2730	2930	10100	5030	11900	3160	3030	8750	16000	7260	3310	3460
9	2720	2830	10700	5020	12900	2970	3060	7810	18100	7390	3010	3370
10	2730	2770	10700	5040	12400	2920	3070	7310	18000	8120	2870	3180
11	2730	2740	10300	4940	11200	2840	3100	7140	18600	9100	2920	3100
12	2740	2850	9680	4680	9330	3190	3100	7050	19300	10200	3010	3080
13	2760	2890	9460	4510	8710	3640	3120	6800	18500	10900	2920	3070
14	2840	2910	10500	4240	8590	3600	3130	6060	17800	11200	2850	3040
15	2990	2860	12100	3600	9140	3280	3100	5740	17100	11300	2760	3050
16	2890	2850	13800	3270	9780	2980	3050	6120	16600	11200	2730	3050
17	2930	2960	14400	3170	10300	2820	3050	6380	17700	11000	2730	3050
18	2870	3090	13700	3130	10800	2730	3060	6570	17200	10700	2730	3070
19	2880	2940	12000	3120	11300	2700	3040	6640	16500	10500	2710	3110
20	2860	2940	10500	3100	11500	2650	3560	6650	15500	10300	2700	3110
21	2760	3730	9650	3070	10500	2600	4630	6730	14100	10300	2770	3130
22	2710	4400	9310	3070	9230	2550	5430	7160	13000	10400	2810	3140
23	2690	3720	9140	3070	8550	2530	5300	7590	12400	10300	2770	3160
24	2650	2150	8880	3040	8260	2500	4330	7780	12000	10300	2770	3120
25	2620	2060	7790	3020	8130	2490	3590	7900	11800	10200	2780	3060
26	2580	3960	6770	3020	8110	2470	3310	8030	12100	10200	2750	3030
27	2560	5620	6240	3010	8190	2470	3320	8190	13300	9900	2740	3010
28	3030	6650	5720	2980	8260	2420	3400	8920	13700	8980	2760	3030
29	4790	7130	4830	2990	---	2410	3420	9620	14200	7810	2760	3050
30	8320	7300	4310	2990	---	2420	3550	10100	14700	7120	2720	3030
31	11100	---	4130	2990	---	2400	---	9910	---	6830	2690	---
TOTAL	101970	141240	277430	117520	240870	114850	99270	231950	440730	300200	108150	91630
MEAN	3289	4708	8949	3791	8603	3705	3309	7482	14690	9684	3489	3054
MAX	11100	12400	14400	5050	12900	8270	5430	10100	19300	13300	6720	3460
MIN	2560	2060	4130	2980	2990	2400	2350	4200	9930	6830	2690	2670
AC-FT	202300	280100	550300	233100	477800	227800	196900	460100	874200	595400	214500	181700

CAL YR 1985 TOTAL 2032200 MEAN 5568 MAX 14500 MIN 2060 AC-FT 4031000
WTR YR 1986 TOTAL 2265810 MEAN 6208 MAX 19300 MIN 2060 AC-FT 4494000

08041000 NECHES RIVER AT EVADALE, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: September 1939 to current year. Pesticide analyses: January 1968 to July 1981.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1947 to current year.
WATER TEMPERATURES: October 1947 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationship between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 422 microsiemens Jan. 25, 1957; minimum daily, 23 microsiemens Sept. 19, 1963.
WATER TEMPERATURES (1947-85): Maximum daily, 34.0°C June 29, 1953; minimum daily, 3.0°C Jan. 30, 31, 1948, Jan. 31, 1949, and Jan 24, 1963.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 196 microsiemens Feb. 1; minimum daily, 97 microsiemens Dec. 13, 15, 17.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
NOV												
19...	1520	2910	126	6.60	22.0	39	8.8	100	1.6	88	110	27
JAN												
06...	1540	5020	151	6.90	10.5	27	10.6	94	1.1	46	K14	28
FEB												
19...	1018	11300	162	7.10	16.5	26	11.0	113	1.1	170	130	33
MAR												
31...	1538	2420	170	6.50	21.0	28	10.0	111	2.1	K2	120	35
MAY												
13...	1325	6790	148	6.20	25.5	32	7.5	91	1.6	32	88	29
AUG												
25...	1523	2750	172	7.80	30.0	15	8.5	--	1.2	88	120	34

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
NOV												
19...	15	7.0	2.4	13	1	3.2	12	26	16	<0.1	14	108
JAN												
06...	18	6.5	2.9	15	1	3.4	10	18	26	<0.1	12	113
FEB												
19...	16	7.7	3.4	18	1	2.8	17	25	22	<0.1	9.9	104
MAR												
31...	14	8.1	3.6	19	1	3.0	21	25	21	<0.1	9.9	119
MAY												
13...	11	6.9	2.9	14	1	3.7	18	24	15	<0.1	8.3	113
AUG												
25...	9	7.9	3.4	17	1	2.8	25	21	19	0.1	9.6	102

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4)	SEDIMENT, SUSPENDED (MG/L)
NOV												
19...	89	<0.01	0.11	0.08	0.03	0.72	0.8	0.06	0.02	0.02	0.06	86
JAN												
06...	89	<0.01	<0.10	0.02	0.01	0.68	0.7	<0.01	--	0.01	0.03	18
FEB												
19...	99	<0.01	<0.10	0.02	0.03	0.48	0.5	0.05	0.02	<0.01	--	20
MAR												
31...	100	<0.01	<0.10	0.01	0.02	0.49	0.5	0.05	0.03	0.02	0.06	25
MAY												
13...	84	<0.01	<0.10	0.05	0.05	0.75	0.8	0.07	0.03	0.02	0.06	47
AUG												
25...	95	<0.01	<0.10	0.04	0.02	0.26	0.3	0.04	0.02	<0.01	--	41

08041000 NECHES RIVER AT EVADALE, TX--Continued
(National stream-quality accounting network)

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
NOV											
19...	676	41	160	1	40	<0.5	<1	<1	<3	3	420
JAN											
06...	244	91	--	--	--	--	--	--	--	--	--
FEB											
19...	610	92	40	<1	48	<0.5	<1	<1	<3	1	100
MAR											
31...	163	95	--	--	--	--	--	--	--	--	--
MAY											
13...	862	81	--	--	--	--	--	--	--	--	--
AUG											
25...	304	77	30	<1	47	0.6	3	<1	<3	2	36

DATE	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
NOV											
19...	<1	7	13	0.2	<10	2	<1	<1	70	<6	47
JAN											
06...	--	--	--	--	--	--	--	--	--	--	--
FEB											
19...	1	7	22	<0.1	<10	8	<1	<1	97	<6	19
MAR											
31...	--	--	--	--	--	--	--	--	--	--	--
MAY											
13...	--	--	--	--	--	--	--	--	--	--	--
AUG											
25...	<5	11	3	<0.1	<10	3	<1	<1	100	<6	24

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	101970	151	92	25400	20	5440	21	5880	31
NOV. 1985	141240	134	84	32100	17	6630	20	7560	28
DEC. 1985	277430	113	74	55600	15	11000	18	13300	25
JAN. 1986	117520	162	97	30800	21	6730	22	7040	32
FEB. 1986	240870	157	95	61500	20	13300	22	14100	31
MAR. 1986	114850	164	98	30300	21	6650	22	6910	32
APR. 1986	99270	173	101	27200	23	6080	23	6150	34
MAY 1986	231950	156	95	59200	20	12800	22	13600	31
JUNE 1986	440730	128	81	96900	17	19700	19	22900	27
JULY 1986	300200	147	90	73300	19	15600	21	17000	30
AUG. 1986	108150	166	99	28800	22	6340	22	6570	33
SEPT 1986	91630	161	96	23900	21	5190	22	5480	32
TOTAL	2265810	**	**	545000	**	115000	**	127000	**
WTD.AVG.	6208	145	89	**	19	**	21	**	30

08041000 NECHES RIVER AT EVADALE, TX--Continued
(National stream-quality accounting network)

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	161	142	141	137	196	162	175	174	141	119	160	162
2	161	141	142	140	186	165	175	171	142	114	165	160
3	166	109	138	145	178	166	178	171	141	102	161	159
4	163	111	124	148	133	166	176	166	142	112	179	158
5	165	110	123	153	155	167	171	161	146	119	174	161
6	165	111	115	156	139	168	175	153	141	120	165	174
7	166	147	102	158	160	165	177	150	145	121	159	154
8	165	118	100	159	135	165	177	162	127	128	160	168
9	165	120	99	162	117	166	175	153	125	142	165	165
10	166	120	100	162	122	170	176	140	145	141	170	162
11	169	132	103	163	130	164	178	145	114	146	154	162
12	168	134	99	159	155	113	176	153	116	151	156	160
13	170	125	97	150	157	118	174	152	108	154	173	162
14	152	131	99	164	167	139	171	155	105	155	160	162
15	137	136	97	160	183	152	173	158	109	163	171	160
16	157	134	104	159	174	158	171	165	113	158	167	163
17	162	131	97	160	169	165	175	162	106	164	163	164
18	155	129	103	169	170	165	176	165	103	160	167	162
19	149	130	134	163	169	178	176	159	130	160	161	165
20	142	147	106	168	167	177	170	160	121	161	161	163
21	133	146	117	165	161	186	164	158	135	162	176	162
22	137	149	115	169	162	174	183	156	124	160	172	156
23	149	137	119	174	163	174	171	158	129	161	175	156
24	154	139	123	179	162	173	144	150	134	160	169	155
25	158	137	121	178	166	171	171	148	139	160	164	156
26	163	145	132	179	164	173	174	147	147	163	165	159
27	161	139	133	181	161	173	176	148	146	161	159	159
28	124	147	133	183	162	174	175	152	145	161	158	157
29	118	148	132	177	---	170	176	150	137	163	176	155
30	139	157	134	174	---	177	176	155	128	159	169	153
31	140	---	134	178	---	173	---	161	---	158	166	---
MEAN	154	133	117	164	159	165	174	157	129	147	166	160

08041500 VILLAGE CREEK NEAR KOUNTZE, TX

LOCATION.--Lat 30°23'52", long 94°15'48", Hardin County, Hydrologic Unit 12020006, at downstream side of bridge on Farm Road 418, 1.6 mi upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 3.1 mi upstream from Cypress Creek, 3.4 mi northeast of Kountze, and 4.3 mi downstream from Beech Creek.

DRAINAGE AREA.--860 mi^2.

PERIOD OF RECORD.--May 1924 to September 1927, October 1927 to November 1929 (discharge measurements only), April 1939 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 25.12 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 30, 1939, nonrecording gage at site 1.6 mi downstream at different datum. Apr. 30, 1939, to Sept. 30, 1966, water-stage recorder at site 2,000 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 27 to Dec. 17 and June 15-17. Records good except those for Nov. 27 to Dec. 17, which are poor. Small diversions above station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--50 years, 844 ft^3/s, 13.34 in/yr, 611,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 67,200 ft^3/s Nov. 26, 1940, (gage height, 27.6 ft) former site, from floodmark and from rating curve extended above 32,000 ft^3/s); minimum not determined, probably occurred during period of no gage-height record Sept. 16 to Oct. 3, 1956; minimum daily, 16 ft^3/s Oct. 1, 2, 1956.

Flood of May 27, 1929, reached a stage of about 32 ft at site 2,000 ft downstream at present datum; stage was determined on basis of information by engineers of Gulf, Colorado, and Santa Fe Railway Co. for site 1.6 mi downstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1884, about 34 ft in August 1915 at site 2,000 ft downstream at present datum; stage was determined on basis of information by engineers of Gulf, Colorado, and Santa Fe Railway Co. for site 1.6 mi downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,700 ft^3/s June 29 at 1300 hours, (gage height, 20.35 ft); minimum, 99 ft^3/s Oct. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	361	2340	1600	600	340	418	233	392	1880	7940	239	272
2	447	2670	1700	575	340	400	226	795	1920	4820	209	269
3	414	2830	1900	556	344	388	219	1480	2040	3140	197	237
4	316	2610	1900	541	614	388	217	1980	1930	1970	192	221
5	220	1810	1700	520	1620	418	214	2280	1560	1250	192	233
6	173	972	1400	496	2570	460	212	2370	1450	945	203	277
7	146	663	1200	475	3900	494	211	2190	1450	841	199	507
8	128	526	1000	462	6050	469	207	1680	1670	762	192	645
9	115	453	900	456	4940	418	214	924	3280	719	190	562
10	109	406	800	471	3630	388	256	544	5220	721	191	516
11	102	382	1000	568	2700	375	315	471	5400	742	194	414
12	100	542	2200	682	2060	422	367	516	5100	702	225	354
13	99	859	4000	711	1510	650	400	598	5050	625	283	352
14	102	1030	5800	648	1180	854	392	620	4410	551	304	338
15	111	983	6400	563	1000	912	351	543	3420	499	286	349
16	144	844	6100	503	892	756	319	441	2570	446	255	428
17	233	861	5050	473	818	539	286	414	2030	402	230	387
18	314	846	3720	461	765	436	246	468	1940	392	223	320
19	278	734	2520	456	725	392	217	779	2080	341	216	280
20	325	576	1660	460	685	371	442	1060	2160	311	204	270
21	372	478	1190	454	638	363	1050	1140	1950	324	192	330
22	375	421	990	439	593	337	1250	959	1390	328	185	344
23	386	380	886	420	551	306	1130	709	940	308	179	337
24	340	360	815	406	515	284	821	457	793	288	174	333
25	276	506	762	393	486	271	468	484	627	274	180	402
26	257	1040	710	382	466	265	323	596	593	261	217	383
27	276	1550	659	372	450	260	269	830	1750	291	255	328
28	367	1800	647	363	434	257	240	1260	9130	250	250	302
29	912	1900	664	352	---	252	234	1720	15400	230	327	327
30	1440	1800	663	344	---	247	255	2140	13500	225	356	340
31	1930	---	636	340	---	240	---	2100	---	244	294	---
TOTAL	11168	33172	61172	14942	40816	13030	11584	32940	102633	31142	7033	10657
MEAN	360	1106	1973	482	1458	420	386	1063	3421	1005	227	355
MAX	1930	2830	6400	711	6050	912	1250	2370	15400	7940	356	645
MIN	99	360	636	340	340	240	207	392	593	225	174	221
CFSM	.42	1.29	2.29	.56	1.70	.49	.45	1.24	3.98	1.17	.26	.41
IN.	.48	1.43	2.65	.65	1.77	.56	.50	1.42	4.44	1.35	.30	.46
AC-FT	22150	65800	121300	29640	80960	25850	22980	65340	203600	61770	13950	21140

CAL YR 1985 TOTAL 306946 MEAN 841 MAX 6400 MIN 62 CFSM .98 IN. 13.28 AC-FT 608800
WTR YR 1986 TOTAL 370289 MEAN 1014 MAX 15400 MIN 99 CFSM 1.18 IN. 16.02 AC-FT 734500

08041700 PINE ISLAND BAYOU NEAR SOUR LAKE, TX

LOCATION.--Lat 30°06'21", long 94°20'04", Jefferson-Hardin County line, Hydrologic Unit 12020007, on right bank at downstream side of bridge on county road and 5.1 mi southeast of Sour Lake.

DRAINAGE AREA.--336 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 19-21, May 22-27, July 23-24, and Sept. 18-30. Records good except those for estimated daily discharges, which are poor. Low flow for period March through September is affected by small diversions and return flow from irrigated fields. Gage-height telemeter at station.

AVERAGE DISCHARGE.--19 years, 471 ft³/s (341,200, acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft³/s Apr. 22, 1979, (elevation, 34.29 ft); minimum daily, 0.25 ft³/s Oct. 28, 1982.

Maximum stage since at least 1917, that of Apr. 22, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,890 ft³/s June 11 at 1800 hours, (elevation, 27.61 ft); minimum daily, 4.4 ft³/s Oct. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	176	2210	1860	55	6.8	15	17	134	101	5170	25	17
2	283	2240	1610	48	6.4	12	15	576	155	4090	26	23
3	276	2080	1350	42	6.1	27	44	822	209	3280	35	80
4	223	1900	1130	37	87	287	28	901	277	2750	29	136
5	176	1660	901	32	173	427	21	853	347	2270	45	117
6	111	1330	683	28	325	544	15	734	401	1930	71	107
7	53	1020	465	25	455	527	21	608	381	1580	64	186
8	26	720	302	21	540	361	18	462	485	1150	75	319
9	16	466	212	20	621	230	11	311	1160	695	80	354
10	10	276	167	23	737	142	23	188	2220	370	103	328
11	7.4	188	159	26	864	82	24	121	3650	231	158	231
12	6.0	414	386	30	939	280	26	92	3700	172	606	144
13	5.3	632	682	37	916	325	15	78	3530	134	503	85
14	4.4	829	884	41	812	211	11	68	3210	98	254	56
15	4.4	941	1030	42	658	146	20	69	2710	75	240	47
16	10	943	1120	36	488	143	18	62	2270	62	203	49
17	36	890	1270	32	324	135	14	41	1940	57	130	48
18	81	811	1420	29	206	102	22	77	1710	49	70	150
19	147	708	1420	26	142	71	27	64	1480	52	37	250
20	208	578	1280	23	109	49	33	61	1260	84	23	350
21	348	431	1100	21	87	35	43	129	1080	99	18	350
22	575	289	869	19	68	27	54	190	884	203	21	300
23	752	193	588	17	53	21	32	190	763	125	27	500
24	786	445	328	15	42	18	26	145	649	74	29	700
25	824	1880	193	13	33	18	39	133	483	54	31	780
26	829	2010	136	11	27	20	29	211	1070	43	33	700
27	775	2240	114	11	22	24	26	151	3260	32	26	500
28	1040	2360	96	9.3	18	18	86	85	4540	26	38	330
29	1410	2180	82	8.5	---	17	103	45	5590	22	66	340
30	1710	2020	71	7.9	---	20	90	38	6020	22	42	120
31	2020	---	63	7.2	---	18	---	60	---	24	24	---
TOTAL	12928.5	34884	21973	792.9	8765.3	4352	951	7699	55535	25023	3132	7697
MEAN	417	1163	709	25.6	313	140	31.7	248	1851	807	101	257
MAX	2020	2360	1860	55	939	544	103	901	6020	5170	606	780
MIN	4.4	188	63	7.2	6.1	12	11	38	101	22	18	17
AC-FT	25640	69190	43580	1570	17390	8630	1890	15270	110200	49630	6210	15270

CAL YR 1985	TOTAL	166512.6	MEAN	456	MAX	3080	MIN	2.9	AC-FT	330300
WTR YR 1986	TOTAL	183732.7	MEAN	503	MAX	6020	MIN	4.4	AC-FT	364400

08041700 PINE ISLAND BAYOU NEAR SOUR LAKE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: February 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1968 to current year.
WATER TEMPERATURES: February 1968 to current year.

INSTRUMENTATION.--Since August 1981, specific conductance and water temperature are recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum and minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 11,600 microsiemens Mar. 23, 1968; minimum daily, 34 microsiemens June 12, 1975, July 28, 1979.
WATER TEMPERATURES: Maximum daily, 37.0°C Sept. 15, 1972; minimum daily, 2.0°C Jan. 11, 1973.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 794 microsiemens Feb. 5; minimum, 40 microsiemens June 27-29.
WATER TEMPERATURES: Maximum, 34.5°C July 30, Aug. 1, 2; minimum, 3.5°C Jan. 28.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT									
31...	1440	2050	81	17.5	20	5	6.2	1.2	8.0
JAN									
15...	1135	42	326	9.0	59	23	19	2.9	40
FEB									
20...	1515	106	158	20.5	35	17	11	1.8	17
APR									
02...	1425	15	337	21.0	68	29	21	3.7	38
MAY									
09...	0815	335	131	24.0	30	12	9.2	1.6	12

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT								
31...	0.8	2.0	15	12	10	<0.1	7.1	55
JAN								
15...	2	2.2	36	13	73	<0.1	6.7	180
FEB								
20...	1	2.1	18	13	31	0.1	5.4	92
APR								
02...	2	2.8	39	18	68	0.2	7.1	180
MAY								
09...	1	2.3	18	15	17	<0.1	6.2	74

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1985	12928.5	249	133	4650	44	1540	13	470	47
NOV.	1985	34884	334	177	16700	64	6020	16	1510	59
DEC.	1985	21973	204	110	6500	35	2080	12	685	40
JAN.	1986	792.9	353	187	401	68	145	17	36	62
FEB.	1986	8765.3	118	63	1500	20	477	6.7	159	23
MAR.	1986	4352	223	119	1400	39	462	12	143	43
APR.	1986	951	338	180	461	64	165	17	42	60
MAY	1986	7699	149	80	1670	25	515	8.8	184	30
JUNE	1986	55535	67	36	5430	10	1560	4.3	637	14
JULY	1986	25023	73	39	2660	11	771	4.6	309	15
AUG.	1986	3132	163	88	743	28	234	9.4	80	32
SEPT	1986	7697	142	77	1590	23	486	8.5	176	29
TOTAL		183732.7	**	**	43700	**	14500	**	4440	**
WTD.AVG.		503	165	88	**	29	**	8.9	**	31

08041700 PINE ISLAND BAYOU NEAR SOUR LAKE, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	316	224	258	290	276	283	186	170	177	302	280	290
2	258	198	224	302	292	297	182	172	177	302	294	297
3	236	202	211	310	302	307	182	168	174	304	296	300
4	228	198	210	318	312	314	170	162	165	302	286	295
5	236	208	219	320	318	319	166	162	164	300	290	295
6	276	220	248	324	320	323	170	166	167	308	302	305
7	292	264	273	330	324	327	178	172	174	310	308	309
8	260	242	250	338	330	334	188	178	183	310	306	308
9	270	246	257	360	340	347	200	188	194	322	310	317
10	298	270	282	384	364	371	216	200	208	328	320	324
11	332	300	313	406	384	396	246	216	229	340	328	334
12	366	334	355	432	414	425	242	234	238	348	340	343
13	378	366	371	484	434	463	238	222	227	364	350	357
14	402	380	388	488	472	480	224	216	220	370	342	357
15	406	382	392	514	488	502	222	214	217	342	322	331
16	394	384	386	534	516	525	224	220	222	346	316	327
17	530	396	472	544	532	539	226	222	224	358	350	354
18	522	452	485	552	546	549	224	210	219	362	354	357
19	482	296	406	552	544	549	214	206	210	---	---	375
20	330	290	314	546	534	543	214	210	211	---	---	389
21	286	258	263	534	514	525	216	212	215	---	---	408
22	258	224	244	514	460	494	226	216	219	436	402	430
23	248	222	240	454	402	436	240	224	232	446	434	439
24	250	230	242	404	312	377	256	242	247	448	446	447
25	228	220	223	300	226	255	268	256	261	490	448	464
26	232	226	230	258	228	243	276	268	271	554	494	528
27	236	230	232	282	260	273	288	274	281	564	554	557
28	240	228	234	286	256	272	304	288	296	564	548	558
29	256	236	249	256	238	247	318	304	310	558	550	554
30	250	244	247	238	176	203	332	320	326	566	554	561
31	274	252	267	---	---	---	348	334	340	568	554	561
MONTH	530	198	290	552	176	384	348	162	226	568	280	389

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	568	550	558	308	288	297	354	302	330	256	114	209
2	568	556	562	342	306	322	376	356	367	242	152	192
3	566	560	564	368	190	331	---	---	325	152	116	129
4	568	250	384	340	146	199	338	334	336	124	108	114
5	794	404	511	280	158	199	366	312	340	134	126	130
6	498	288	371	164	156	160	352	310	340	128	120	125
7	280	146	197	166	158	162	312	254	293	120	116	118
8	160	102	126	196	168	181	310	290	297	134	118	122
9	232	110	159	212	196	204	350	260	327	150	130	141
10	126	60	85	240	214	224	286	240	259	170	152	161
11	102	50	63	264	242	250	322	246	277	180	172	174
12	54	48	51	270	138	186	288	272	282	192	182	185
13	56	52	54	234	184	213	326	266	302	194	188	191
14	66	56	60	286	232	253	330	272	319	196	190	194
15	70	64	67	310	288	298	362	218	278	210	194	200
16	112	62	78	344	310	323	408	258	346	212	206	209
17	120	104	111	360	340	349	414	308	355	216	208	213
18	140	112	121	348	334	341	316	260	289	216	186	198
19	154	138	144	362	348	355	344	268	289	264	200	226
20	184	152	176	356	308	321	376	254	333	414	254	317
21	204	186	194	370	362	367	450	304	405	382	196	272
22	206	194	199	382	368	373	388	286	343	188	146	165
23	226	208	217	404	384	389	434	356	403	---	---	160
24	250	226	233	422	406	417	404	312	363	---	---	175
25	268	226	244	440	420	431	406	266	351	---	---	190
26	286	270	279	432	380	414	480	334	385	---	---	145
27	306	280	289	394	382	388	558	450	508	---	---	155
28	308	300	303	394	298	348	330	230	252	182	164	173
29	---	---	---	316	296	305	658	304	460	212	182	196
30	---	---	---	322	268	292	404	230	265	218	184	210
31	---	---	---	314	294	302	---	---	---	272	174	224
MONTH	794	48	229	440	138	297	658	218	334	414	108	181

08041700 PINE ISLAND BAYOU NEAR SOUR LAKE, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	316	182	254	52	46	49	224	206	219	268	260	255
2	176	130	146	56	52	54	224	218	223	272	268	247
3	188	130	156	62	56	59	222	214	220	276	274	210
4	174	118	136	66	62	64	222	216	219	278	276	175
5	118	92	100	74	66	70	234	204	218	282	278	190
6	96	92	93	82	74	78	238	210	228	284	280	203
7	100	92	95	94	82	88	236	214	229	284	280	169
8	116	64	93	108	94	100	212	206	210	286	280	142
9	100	64	83	128	110	120	274	214	232	288	286	125
10	62	52	57	138	130	135	362	234	289	292	288	133
11	52	50	51	142	136	139	292	88	221	294	290	155
12	66	52	58	140	134	136	116	100	107	298	292	177
13	70	66	69	158	140	150	114	104	108	300	298	196
14	70	66	68	174	160	170	142	116	129	300	298	210
15	74	68	72	180	174	177	138	105	121	300	296	230
16	82	74	78	184	176	181	178	144	165	298	296	227
17	88	82	85	184	174	178	160	156	158	298	296	232
18	96	90	93	186	178	182	164	156	160	298	296	215
19	100	96	97	178	172	175	186	164	177	298	296	180
20	110	100	107	248	170	196	---	---	193	298	296	160
21	108	102	104	162	152	158	---	---	215	298	296	150
22	106	102	105	136	90	106	---	---	236	298	296	140
23	112	106	108	172	126	149	260	240	252	300	296	123
24	122	110	116	228	170	182	258	222	235	300	296	112
25	138	124	131	184	178	181	294	228	256	300	296	103
26	142	42	90	196	184	192	288	256	273	298	294	115
27	54	40	47	220	198	210	298	274	287	296	294	128
28	42	40	41	224	214	219	272	232	252	296	292	149
29	48	40	44	224	212	219	264	234	248	296	288	145
30	46	44	45	218	204	214	266	226	246	290	288	160
31	---	---	---	214	204	209	260	232	248	---	---	---
MONTH	316	40	94	248	46	146	362	88	212	300	260	172

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	19.5	19.0	19.0	17.5	17.0	17.0	16.0	15.0	16.0	12.5	11.0	11.5
2	19.0	18.5	18.5	17.0	16.5	17.0	15.0	13.0	14.0	12.0	11.0	11.5
3	18.5	18.0	18.5	16.5	16.0	16.5	13.0	12.0	12.5	11.5	11.0	11.5
4	19.0	18.0	18.5	16.0	15.5	16.0	12.0	11.5	12.0	12.5	11.5	12.0
5	19.0	18.0	18.5	15.5	15.0	15.5	12.0	11.5	12.0	12.0	10.0	11.0
6	18.0	17.5	18.0	15.5	15.0	15.5	12.0	11.0	11.5	10.0	9.0	9.5
7	18.0	16.5	17.0	16.0	15.5	15.5	12.0	11.0	11.5	10.5	10.0	10.0
8	19.5	17.5	18.5	16.0	15.5	15.5	12.5	11.5	12.0	10.0	8.0	9.0
9	20.5	19.0	20.0	17.0	16.0	16.5	13.5	12.5	13.0	8.0	7.5	7.5
10	22.5	20.5	21.5	18.0	17.0	17.5	15.0	13.5	14.0	8.5	7.5	8.0
11	24.0	22.0	23.0	19.5	18.0	18.5	15.5	13.5	15.0	8.0	7.5	8.0
12	24.0	23.0	23.5	20.0	19.0	19.5	13.5	12.0	12.5	8.5	7.0	8.0
13	25.0	23.5	24.0	20.5	20.0	20.5	11.5	10.0	11.0	8.5	7.5	8.0
14	26.0	24.0	25.0	21.0	20.5	21.0	10.0	8.0	9.0	8.5	7.5	8.0
15	25.0	23.5	24.5	21.5	21.0	21.0	8.0	7.5	7.5	9.5	8.0	9.0
16	23.5	23.0	23.0	21.0	20.5	20.5	7.5	7.0	7.5	10.0	9.5	9.5
17	23.5	23.0	23.0	20.5	20.0	20.5	8.0	7.5	7.5	11.0	10.0	10.5
18	23.5	23.0	23.0	20.5	20.0	20.5	8.5	8.0	8.0	12.0	11.0	11.0
19	24.0	23.0	23.5	21.0	20.5	21.0	8.5	8.0	8.5	---	---	---
20	23.0	22.5	23.0	21.0	19.5	20.0	8.5	8.0	8.0	---	---	---
21	23.0	22.5	22.5	19.0	18.0	18.5	8.5	7.5	8.0	---	---	---
22	23.0	22.5	22.5	18.0	17.0	17.5	9.0	8.0	8.5	16.5	7.5	8.0
23	23.0	22.5	22.5	17.5	17.0	17.5	9.5	8.5	9.0	7.5	6.0	6.5
24	23.0	22.5	22.5	19.5	17.5	18.0	9.5	9.0	9.5	6.5	5.5	6.0
25	22.5	22.5	22.5	19.5	19.0	19.0	9.5	8.0	9.0	8.5	7.0	7.5
26	22.5	22.0	22.5	20.0	19.5	20.0	8.5	7.0	8.0	8.0	6.0	7.0
27	22.0	21.0	21.5	20.0	19.5	20.0	9.5	8.5	9.0	6.0	4.0	5.0
28	21.0	19.0	19.5	19.5	18.0	19.0	10.5	9.5	10.0	6.0	3.5	4.5
29	19.0	18.5	19.0	18.0	16.5	17.0	11.0	10.5	10.5	8.5	6.0	7.5
30	18.5	17.5	18.0	16.0	16.0	16.0	11.0	10.0	10.5	10.5	8.5	9.5
31	17.5	17.5	17.5	---	---	---	12.5	11.5	12.0	12.0	10.0	11.0
MONTH	26.0	16.5	21.0	21.5	15.0	18.5	16.0	7.0	10.5	16.5	3.5	9.0

08041700 PINE ISLAND BAYOU NEAR SOUR LAKE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	13.0	11.5	12.0				---	---	---	24.5	20.5	22.5
2	14.0	12.5	13.5				---	---	---	21.0	20.5	20.5
3	15.0	14.0	14.5				---	---	---	20.5	20.0	20.0
4	15.5	14.0	15.0				23.5	22.0	23.0	20.5	20.0	20.5
5	15.0	14.5	15.0				25.0	21.5	23.0	21.5	20.5	21.0
6	14.5	14.0	14.5				25.5	23.0	24.0	22.0	21.5	21.5
7	13.5	13.0	13.5				26.5	22.5	24.5	23.5	22.0	22.5
8	13.5	13.0	13.0				28.0	22.5	25.0	24.0	23.0	23.5
9	13.0	12.0	12.5				28.0	21.0	24.0	24.0	24.0	24.0
10	12.0	10.5	11.5				20.5	16.0	17.0	25.0	24.0	24.5
11	10.5	9.5	10.0				19.0	16.0	17.0	25.0	22.5	23.5
12	9.0	8.5	9.0				20.0	18.0	19.0	26.0	23.5	24.5
13	9.0	8.5	8.5				24.0	20.0	21.0	26.5	24.0	25.0
14	10.5	9.0	10.0				24.0	22.0	23.0	26.0	23.5	25.0
15	11.5	10.0	11.0				24.0	20.0	22.5	25.5	24.5	25.0
16	14.0	11.5	12.5				23.5	19.0	20.5	26.0	24.0	24.5
17	16.0	14.0	15.0				22.5	18.5	20.0	26.0	23.5	25.0
18	18.0	16.0	17.0				25.0	19.0	22.0	23.5	21.0	22.5
19	20.0	18.0	19.0				23.5	21.5	22.0	25.0	20.5	22.5
20	20.5	19.5	19.5				26.0	20.5	22.5	24.5	21.0	22.5
21	---	---	---				25.0	19.5	22.0	23.5	21.0	22.0
22	---	---	---				24.5	20.5	22.5	22.0	21.5	21.5
23	---	---	---				25.0	18.5	21.0	---	---	---
24	---	---	---				26.5	19.5	22.5	---	---	---
25	---	---	---				24.5	20.5	22.5	---	---	---
26	---	---	---				26.0	21.0	23.0	---	---	---
27	---	---	---				25.5	22.5	24.0	---	---	---
28	---	---	---				28.5	21.5	24.5	27.5	23.5	26.0
29	---	---	---				26.5	24.5	25.5	28.5	24.0	26.0
30	---	---	---				25.5	23.5	24.5	28.0	25.5	26.5
31	---	---	---				---	---	---	27.0	24.5	26.0
MONTH	20.5	8.5	13.5				28.5	16.0	22.5	28.5	20.0	23.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	26.5	24.5	25.5	28.0	27.0	27.5	34.5	28.0	31.0			
2	26.0	24.5	25.0	28.0	27.5	28.0	34.5	28.0	31.0			
3	25.5	25.0	25.5	28.0	27.5	28.0	33.0	28.0	30.5			
4	25.5	25.0	25.5	28.0	27.5	27.5	32.5	27.0	29.5			
5	26.0	25.0	25.5	28.0	27.5	28.0	30.0	27.0	28.0			
6	26.0	25.5	25.5	28.0	27.5	28.0	28.0	25.5	26.5			
7	26.0	25.5	25.5	28.0	27.5	27.5	29.5	25.5	27.0			
8	25.5	24.0	24.5	27.5	27.0	27.5	30.5	26.0	27.5			
9	25.0	24.0	24.5	27.5	27.0	27.5	28.5	26.5	27.5			
10	25.0	24.5	24.5	28.5	27.0	27.5	29.5	26.0	27.5			
11	25.5	25.0	25.5	28.5	27.0	27.5	28.5	24.5	26.5			
12	26.0	25.5	25.5	30.0	27.0	28.0	25.5	24.5	25.0			
13	26.0	25.5	25.5	30.5	27.5	29.0	27.0	25.0	26.0			
14	26.0	25.5	25.5	31.0	27.5	29.0	28.0	26.0	27.0			
15	26.0	25.5	26.0	30.5	27.5	29.0	28.0	25.5	26.5			
16	26.0	25.5	26.0	31.5	27.5	29.5	29.0	26.5	27.5			
17	26.0	26.0	26.0	32.0	27.5	29.5	30.0	27.0	28.0			
18	26.0	25.5	25.5	31.5	27.5	29.5	31.0	28.0	29.0			
19	25.5	25.0	25.5	31.5	26.5	29.0	31.0	28.0	29.5			
20	25.5	25.0	25.5	31.0	27.5	29.0	31.5	27.5	29.0			
21	26.0	25.0	25.5	30.5	27.5	29.0	31.0	27.5	29.0			
22	26.5	25.5	26.0	29.0	24.5	26.5	30.0	26.0	28.0			
23	26.5	26.0	26.5	31.5	27.0	29.0	29.0	26.5	27.5			
24	27.0	26.0	26.5	32.5	28.0	29.5	30.5	25.5	27.5			
25	27.0	26.5	27.0	32.5	28.0	30.0	32.5	26.0	29.0			
26	27.0	24.0	25.5	31.5	28.0	29.5	33.0	27.0	29.5			
27	25.0	24.0	24.5	33.0	27.5	29.5	31.0	27.5	29.0			
28	26.0	25.0	25.5	33.5	28.0	30.5	29.0	25.0	26.0			
29	26.5	26.0	26.5	34.0	28.0	31.0	28.0	23.0	25.0			
30	27.5	26.5	27.0	34.5	28.0	31.0	28.5	23.0	25.5			
31	---	---	---	34.0	28.0	30.5	28.5	24.0	26.0			
MONTH	27.5	24.0	25.5	34.5	24.5	29.0	34.5	23.0	28.0			

08042000 TAYLOR BAYOU NEAR LABELLE, TX

LOCATION.--Lat 29°52'30", long 94°09'34", Jefferson County, Hydrologic Unit 12040201, near center of stream at downstream side of bridge on county road, 0.7 mi south of LaBelle, 6.0 mi upstream from Hillebrandt Bayou, 7.2 mi upstream from State Highway 73, and 11.2 mi upstream from saltwater gates and barge locks. Distances are measured along rectified channel.

DRAINAGE AREA.--262 mi².

PERIOD OF RECORD.--April 1954 to September 1984 (complete records for storms of 1.0 inch or more runoff, except for the period Sept. 10-22, 1961). October 1984 to current year (gage heights only).

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4.63 ft below National Geodetic Vertical Datum of 1929, originally determined by several comparisons of water surface with auxiliary water-stage recorder 7.2 mi downstream during times of no flow and ideal weather conditions. Prior to October 1984, auxiliary water-stage recorder 7.2 mi downstream.

REMARKS.--Records good. Prior to October 1984 records were computed using fall as a factor. Low flow is regulated by drainage from ricefields and operation of saltwater gates and barge locks. An unknown amount of water is diverted above and below gage for rice irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,590 ft³/s Sept. 22, 1963, and Apr. 23, 1979; maximum gage height, 11.78 ft Sept. 20, 1963 (backwater from Hillebrandt Bayou); minimum discharge not determined (affected by tides and pumping); minimum gage height, 2.31 ft July 17, 1954.

Maximum stage since at least 1941, that of Sept. 20, 1963, and Apr. 23, 1979. Flood of Sept. 13, 1961 (Hurricane Carla), reached a stage of 11.51 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1941 reached a stage of 11.3 ft, from information by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 8.39 ft June 28 at 020C to 0500 hours; minimum gage height, 5.26 ft Mar. 1.

MAXIMUM DAILY GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.36	6.32	6.81	6.01	5.77	5.37	5.45	6.51	6.39	7.19	5.93	6.13
2	6.25	6.68	6.32	6.02	5.78	5.48	5.49	7.03	6.37	6.66	5.88	6.16
3	6.32	6.74	6.17	6.03	5.87	5.65	5.60	7.00	6.32	6.29	5.92	6.19
4	6.35	6.44	6.30	6.05	6.36	6.08	5.64	6.62	6.27	6.34	5.87	6.19
5	6.32	6.17	6.35	6.01	6.43	6.08	5.69	6.42	6.30	6.43	5.95	6.16
6	6.20	6.17	6.15	5.98	6.41	6.07	5.72	6.38	6.42	6.48	6.07	6.33
7	6.23	6.05	6.20	6.02	6.37	6.00	5.77	6.35	6.57	6.38	6.08	6.43
8	6.28	6.11	6.23	5.98	6.35	5.97	5.81	6.28	7.55	6.30	6.07	6.45
9	6.27	6.30	6.26	6.00	6.30	5.98	5.82	6.26	8.27	6.32	6.12	6.37
10	6.29	6.34	6.31	6.07	6.28	5.99	5.82	6.27	8.27	6.33	6.15	6.45
11	6.29	6.40	6.47	6.08	6.20	5.93	5.87	6.28	8.06	6.28	---	6.44
12	6.30	6.50	6.70	6.11	6.12	6.35	5.93	6.25	7.60	6.25	---	6.38
13	6.30	6.56	6.75	6.00	6.12	6.38	5.96	6.20	7.01	6.21	---	6.28
14	6.32	6.32	6.68	6.00	6.17	6.38	6.02	6.10	6.47	6.08	---	6.25
15	6.37	6.47	6.51	5.95	6.16	6.31	5.98	6.16	6.22	6.07	---	6.25
16	6.34	6.45	6.43	5.94	6.18	6.13	5.92	6.22	6.37	6.07	---	6.25
17	6.39	6.38	6.32	6.02	6.21	5.88	5.87	6.38	6.55	6.08	---	6.24
18	6.43	6.39	6.23	6.03	6.18	5.96	5.90	6.37	6.77	6.12	---	6.25
19	6.46	6.44	6.09	6.02	6.18	5.95	5.99	6.23	6.77	6.10	---	6.29
20	6.49	6.37	6.11	5.98	6.17	5.87	6.15	6.13	6.58	6.09	---	6.36
21	6.48	6.07	5.91	5.97	6.15	5.63	6.16	6.16	6.47	6.09	---	6.48
22	6.64	6.22	5.87	5.95	6.07	5.45	6.12	6.16	6.42	6.08	---	6.55
23	6.95	6.31	5.88	5.88	5.88	5.45	6.09	6.15	6.33	5.07	---	6.58
24	6.95	6.51	5.87	5.88	5.88	5.39	6.04	6.14	6.27	6.06	---	6.60
25	6.87	6.87	5.83	5.94	5.87	5.38	6.01	6.52	6.32	6.06	5.91	6.60
26	6.78	6.93	5.72	5.92	5.88	5.42	6.03	6.77	7.92	6.07	5.88	6.56
27	6.80	7.20	5.91	5.75	5.93	5.41	6.10	6.75	8.38	6.03	5.91	6.52
28	6.88	7.38	5.91	5.62	5.70	5.40	6.21	6.73	8.39	6.00	5.98	6.47
29	7.09	7.26	5.91	5.63	---	5.40	6.25	6.47	8.26	5.95	6.02	6.47
30	7.03	6.88	5.98	5.62	---	5.38	6.26	6.33	7.85	5.97	6.06	6.48
31	6.76	---	6.05	5.69	---	5.42	---	6.37	---	5.96	6.08	---

08042500 HILLEBRANDT BAYOU NEAR LOVELL LAKE, TX

LOCATION.--Lat 29°55'44", long 94°06'35", Jefferson County, Hydrologic Unit 12040201, near center of stream at downstream side of bridge on county road, 1.3 mi southeast of Lovell Lake, and 4.4 mi upstream (along rectified channel) from Taylor Bayou.

DRAINAGE AREA.--128 mi^2.

PERIOD OF RECORD.--April 1954 to September 1984 (complete records for storms of 1.0 inch or more runoff, except for the period Sept. 11-18, 1961). October 1984 to current year (gage heights only).

GAGE.--Water-stage recorder. Auxiliary water-stage recorder 3.0 mi downstream. Datum of gage is 4.63 ft below National Geodetic Vertical Datum of 1929, originally determined by comparisons of water surface with Taylor Bayou near LaBelle, auxiliary gage 5.6 mi downstream, during times of no flow and ideal weather conditions. Prior to Aug. 28, 1963, auxiliary water-stage recorder on Taylor Bayou 1.2 mi downstream from Hillebrandt Bayou, nonrecording gages on Taylor Bayou 2.3 and 5.2 mi downstream from Hillebrandt Bayou; Aug. 28, 1963 to September 30, 1984 auxiliary water-stage recorder 3.0 mi downstream.

REMARKS.--Records good. Prior to October 1984 records were computed using fall as a factor. Low flow is regulated by drainage from ricefields and operation of saltwater gages and barge locks. An unknown amount of water is diverted above and below gage for rice irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft^3/s Sept. 18, 1963; maximum gage height, 12.34 ft Sept. 19, 1963; minimum discharge not determined (affected by tides and pumping); minimum gage height, 2.33 ft July 17, 1954. Maximum stage since 1941, 12.34 ft Sept. 19, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 8.28 ft June 9 at 1200 to 1900 hours; minimum gage height, 5.26 ft Mar. 1.

MAXIMUM DAILY GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.30	6.33	6.75	5.98	5.78	5.37	5.48	6.49	6.41	6.90	5.93	6.12
2	6.25	6.64	6.24	6.01	5.82	5.52	5.53	6.96	6.37	6.63	5.88	6.18
3	6.29	6.71	6.13	6.02	5.97	5.97	5.64	6.83	6.32	6.30	5.87	6.22
4	6.33	6.43	6.28	6.04	6.35	6.09	5.68	6.50	6.29	6.36	5.90	6.23
5	6.27	6.15	6.30	5.97	6.42	6.10	5.72	6.45	6.30	6.46	5.97	6.18
6	6.18	6.16	6.13	5.98	6.42	6.08	5.74	6.43	6.45	6.57	6.07	6.32
7	6.24	6.00	6.18	5.99	6.37	6.00	5.77	6.39	6.52	6.38	6.11	6.44
8	6.28	6.10	6.23	5.92	6.33	6.02	5.84	6.29	8.25	6.31	6.12	6.44
9	6.26	6.31	6.26	5.99	6.28	6.02	5.78	6.27	8.28	6.33	6.15	6.38
10	6.29	6.32	6.30	6.07	6.25	6.02	5.80	6.24	8.16	6.37	6.18	6.48
11	6.28	6.40	6.42	6.08	6.16	5.92	5.88	6.28	7.62	6.32	6.30	6.48
12	6.31	6.47	6.67	6.10	6.11	6.33	5.92	6.25	7.36	6.30	6.36	6.40
13	6.30	6.52	6.68	6.06	6.13	6.35	5.97	6.18	6.75	6.22	6.37	6.31
14	6.30	6.52	6.59	6.00	6.18	6.35	6.01	6.32	6.33	6.12	6.38	6.27
15	6.35	6.45	6.47	5.95	6.14	6.27	5.96	6.18	6.14	6.11	6.36	6.29
16	6.32	6.41	6.40	5.94	6.24	6.10	5.93	6.25	6.32	6.10	6.29	6.28
17	6.39	6.38	6.29	6.02	6.25	5.90	5.89	6.35	6.42	6.11	6.21	6.26
18	6.45	6.44	6.20	6.02	6.22	5.99	5.93	6.35	6.59	6.12	6.12	6.27
19	6.46	6.47	6.05	6.02	6.22	5.96	6.03	6.20	6.63	6.13	6.03	6.27
20	6.46	6.30	6.08	5.99	6.18	5.83	6.16	6.13	6.57	6.13	5.95	6.32
21	6.66	6.03	5.88	6.02	6.15	5.62	6.17	6.17	6.47	6.15	5.88	6.45
22	6.64	6.19	5.84	5.97	6.03	5.43	6.13	6.18	6.43	6.12	5.88	---
23	7.05	6.28	5.85	5.87	5.86	5.46	6.11	6.17	6.34	6.10	5.98	---
24	6.95	6.52	5.85	5.89	5.87	5.38	6.07	6.15	6.27	6.10	5.96	---
25	6.88	6.74	5.80	5.97	5.86	5.40	6.05	6.52	6.29	6.08	5.90	---
26	6.74	6.85	5.72	5.91	5.92	5.43	6.07	6.60	8.01	6.07	5.87	---
27	6.75	7.27	5.85	5.75	5.91	5.42	6.15	6.67	8.07	6.04	5.86	---
28	7.23	7.28	5.87	5.67	5.68	5.43	6.22	6.58	7.93	6.00	5.93	---
29	7.22	7.02	5.89	5.66	---	5.43	6.28	6.34	7.55	5.97	6.00	---
30	6.69	6.38	6.02	5.60	---	5.42	6.29	6.28	7.22	6.00	6.03	---
31	6.51	---	6.05	5.72	---	5.44	---	6.37	---	5.98	6.07	---

08042800 WEST FORK TRINITY RIVER NEAR JACKSBORO, TX

LOCATION.--Lat 33°17'36", long 98°04'43", Jack County, Hydrologic Unit 12030101, near left bank at downstream side of bridge on State Highway 59, 4 mi downstream from Big Cleveland Creek, 7 mi upstream from Carroll Creek, 7 mi northeast of Jacksboro, and at mile 660.

DRAINAGE AREA.--683 mi².

PERIOD OF RECORD.--March 1956 to current year.
Water-quality records.--Sediment records: October 1976 to September 1978.

GAGE.--Water-stage recorder. Datum of gage is 869.28 ft above National Geodetic Vertical Datum of 1929, from State Department of Highways and Public Transportation. Sept. 20, 1960, to May 30, 1961, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharge: Nov. 4-14, June 20-25, and Aug. 1-13. Records good except those for estimated daily discharges, which are fair. At end of year, flow from 70.9 mi² upstream from this station was partly controlle by 21 floodwater-retarding structures with a combined detention capacity of 19,780 acre-ft.

AVERAGE DISCHARGE.--30 years (water years 1957-86), 98.1 ft³/s (1.95 in/yr), 71,070 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,100 ft³/s Apr. 27, 1957 (gage height, 32.10 ft, from floodmark); no flow at times each year.
Maximum stage since at least 1900, that of Apr. 27, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1941 reached a stage of 30 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*).

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 20	0630	1,730	17.75	June 11	0500	1,460	16.69
May 24	2130	*1,760	*17.80	June 13	1830	1,480	16.79
June 2	0100	1,640	17.44				

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	2.6	2.5	.17	.02	.10	.09	590	455	1.4	.00	.00
2	.00	2.3	1.1	.16	.03	.06	.09	863	1280	1.3	.00	.00
3	.00	2.0	.88	.15	.11	.06	.09	540	816	10	.00	.00
4	.00	1.8	.85	.13	.10	.06	.06	96	641	138	.00	.00
5	.00	1.6	.68	.13	.54	.06	.06	46	817	32	.00	.04
6	.00	1.4	.57	.13	.57	.05	.06	24	978	48	.00	.00
7	.00	1.2	1.3	.10	.18	.05	.05	15	1030	32	.00	.00
8	.00	.98	2.5	.06	.23	.06	.05	11	853	15	.00	14
9	.00	.84	2.1	.06	.27	.05	.05	7.3	531	9.2	.00	.38
10	.00	.67	1.8	.05	.30	.05	.04	5.5	276	7.7	.00	.01
11	.00	.59	1.5	.04	.27	.05	.03	261	1160	6.6	.00	.00
12	.00	.49	1.4	.04	.24	.10	.03	559	1010	5.8	.00	.00
13	.00	.43	1.2	.03	.20	.65	.03	631	1380	5.8	.00	.00
14	.05	.32	.88	.03	.27	.40	.03	678	1120	5.5	.00	.00
15	.14	.28	.82	.03	.29	.27	.03	423	290	5.4	.00	.00
16	.12	.25	.62	.03	.29	.18	.03	42	415	4.5	.00	.00
17	.09	.25	.53	.03	.29	.15	.03	25	542	3.5	.00	.00
18	917	.25	.41	.02	.27	1.6	.03	26	283	2.8	.00	.00
19	1480	.24	.41	.02	.28	.46	6.7	60	104	2.2	.00	.00
20	1660	.19	.37	.02	.25	.23	4.4	188	52	1.5	.00	.00
21	1240	.19	.31	.02	.21	.24	141	173	32	1.2	.00	70
22	540	.19	.28	.03	.19	.28	284	131	19	.85	.00	155
23	79	.22	.28	.04	.21	.27	97	47	13	.60	.00	19
24	45	.25	.27	.03	.19	.25	36	426	7.6	.41	.00	5.8
25	199	.27	.25	.03	.17	.20	17	739	5.2	.26	.00	2.9
26	109	1.6	.22	.03	.16	.17	8.9	186	3.9	.16	.00	1.8
27	29	4.2	.22	.03	.16	.16	4.3	226	2.6	.10	.00	.78
28	21	1.8	.18	.02	.14	.15	2.7	151	2.0	.06	.00	.46
29	8.7	1.4	.17	.02	---	.15	1.9	51	1.7	.03	.00	.39
30	4.7	1.7	.17	.02	---	.15	78	24	1.5	.01	.00	.22
31	3.2	---	.16	.02	---	.12	---	17	---	.01	.00	---
TOTAL	6336.00	30.50	24.93	1.72	6.43	6.85	682.78	7261.8	14121.5	341.89	.00	270.78
MEAN	204	1.02	.80	.05	.23	.22	22.8	234	471	11.0	.00	9.03
MAX	1660	4.2	2.5	.17	.57	1.6	284	863	1380	138	.00	155
MIN	.00	.19	.16	.02	.02	.05	.03	5.5	1.5	.01	.00	.00
CFSM	.30	.00	.00	.00	.00	.00	.03	.34	.69	.02	.00	.01
IN.	.35	.00	.00	.00	.00	.00	.04	.40	.77	.02	.00	.01
AC-FT	12570	60	49	3.4	13	14	1350	14400	28010	678	.00	537

CAL YR 1985 TOTAL 47502.63 MEAN 130 MAX 4270 MIN .00 CFSM .19 IN. 2.59 AC-FT 94220
WTR YR 1986 TOTAL 29085.18 MEAN 79.7 MAX 1660 MIN .00 CFSM .12 IN. 1.58 AC-FT 57690

08043000 BRIDGEPORT RESERVOIR ABOVE BRIDGEPORT, TX

LOCATION.--Lat 33°13'22", long 97°49'54", Wise County, Hydrologic Unit 12030101, at left end of Bridgeport Dam on West Fork Trinity River, 4.6 mi west of Bridgeport, 13 mi upstream from Big Sandy Creek, and at mile 626.

DRAINAGE AREA.--1,111 mi².

PERIOD OF RECORD.--April 1932 to September 1986 (discontinued). Prior to October 1950, monthend figures only.

REVISED RECORDS.--WSP 1922: Drainage Area.

GAGE.--Nonrecording gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Jan. 26, 1944, nonrecording gages at various sites in vicinity of present gage at present datum.

REMARKS.--The reservoir is formed by a rolled earthfill dam 2,040 ft long. The dam was completed in December 1931 and storage began Apr. 1, 1932. The original dam was 1,900 ft long, but was lengthened to the present length (2,040 ft) in 1971-72. The original service spillway was eliminated during construction (1971-72), and a new spillway with approach and discharge channels was built through natural ground 2,800 ft from the left end of dam. The new spillway is 90 ft wide and has eight vertical lift gates that are 11.25 by 22 ft. The controlled outlet works consist of a 48-inch-diameter and an 18-inch-diameter pipe encased in a concrete conduit extending through the dam. In addition, a controlled 60-inch-diameter steel pipe extends through the service spillway wall to the spillway discharge basin. For elevations of outlet works, see table below. Capacity tables are based on surveys made in 1956 and 1968. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam......................................	874.0	-
Crest of spillway...............................	866.0	902,000
Top of gates....................................	842.0	469,300
Top of conservation pool........................	836.0	387,000
Crest of spillway...............................	820.0	212,400
Lowest gated outlet (invert, at spillway).......	810.0	133,200
Lowest gated outlet (invert)....................	751.4	0

COOPERATION.--Daily elevation records were provided by Tarrant County Water Control and Improvement District No. 1. Capacity table was provided by Freese and Nichols, Consulting Engineers, for Tarrant County Water Control and Improvement District No. 1.

EXTREMES (at 0700) FOR PERIOD OF RECORD.--Maximum contents observed, 424,700 acre-ft May 15, 1982 (elevation, 838.84 ft); minimum contents since first appreciable storage in 1935, 7,170 acre-ft Oct. 12-16, 1956.

EXTREMES (at 0700) FOR CURRENT YEAR.--Maximum contents observed, 398,700 acre-ft June 16 (elevation, 836.90 ft); minimum observed, 269,100 acre-ft Oct. 17 (elevation, 825.88 ft).

Capacity table (elevation, in feet, and contents, in acre-feet

825.0	260,100	833.0	349,300
827.0	280,800	836.0	387,000
830.0	313,900	838.0	413,400

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0700

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	274300	314100	311600	305400	303100	304000	302000	305800	351600	386700	369200	344200
2	274000	314000	311500	305300	303000	303800	302000	307500	363800	386600	368400	346800
3	273600	313900	311200	305100	304400	303600	301900	309000	368600	386400	367700	346700
4	273200	313700	311000	305100	304800	303600	303400	309600	371300	386700	366800	346600
5	272700	313500	311000	305000	304800	303500	303400	309900	375000	386600	366100	348000
6	272200	313400	310900	304900	305600	303500	303400	309900	378200	386300	365300	349500
7	271700	313200	310900	304800	305500	303200	303200	310000	380600	386200	364300	349500
8	271200	312900	310800	304600	305400	303200	303200	309900	383100	386000	363400	349400
9	270900	312800	310800	304500	305300	303100	303100	309800	385000	385900	362800	349300
10	270600	312700	310400	304400	305300	303400	302900	310400	385900	385700	362200	349000
11	270400	312600	310000	304400	305100	303200	302800	310700	387100	385500	361400	348900
12	270200	312400	309400	304300	305000	303500	303000	310900	390500	385300	360700	348800
13	269900	312500	309000	304300	304900	303600	302900	311800	391800	385000	359700	348400
14	269600	312600	308500	304300	304900	303700	302800	312700	393700	384800	358800	348200
15	269900	312600	308100	304100	304900	303700	302600	313400	395400	384400	357800	347900
16	269500	312500	307700	304000	304900	303600	302300	314300	398700	384000	357300	347800
17	269100	312400	307400	303900	304800	303500	302100	315700	398200	383600	356600	347700
18	275200	312300	307200	304000	304800	304100	302000	316700	397700	381300	356000	347600
19	299200	312000	306700	304000	304800	304100	301900	316700	396900	380000	355300	347400
20	305500	312000	306400	303900	304800	303900	304100	316700	395700	379400	354400	347200
21	309200	311900	306000	303900	304700	303700	304000	316800	394200	378800	353400	347000
22	312000	311800	305700	303900	304500	303500	304000	316700	392700	378200	352300	346800
23	313400	311800	305900	303800	304400	303200	304000	316600	391800	377300	351500	347000
24	313600	311700	305800	303700	304400	303100	304100	316500	390600	376200	350600	347000
25	313900	311600	305700	303600	304300	303000	304100	341800	389600	375500	349900	346700
26	314200	311800	305700	303500	304300	302900	304000	345600	388900	374800	349100	346500
27	314700	311700	305600	303400	304300	302700	303900	348300	388400	373700	348400	346200
28	314700	311600	305500	303200	304100	302500	303900	349900	387700	372600	347700	345900
29	314500	311500	305500	303100	---	302300	303800	350200	387300	371700	347000	345600
30	314800	311500	305400	303100	---	302200	304000	350600	387100	371100	346000	345400
31	314500	---	305400	303100	---	302100	---	350700	---	370300	345100	---
MAX	314800	314100	311600	305400	305600	304100	304100	350700	398700	386700	369200	349500
MIN	269100	311500	305400	303100	303000	302100	301900	305800	351600	370300	345100	344200
(†)	830.06	829.79	829.25	829.05	829.14	828.96	829.13	833.12	836.01	834.70	832.66	832.68
(ϕ)	+39600	-3000	-6100	-2300	+1000	-2000	+1900	+46700	+36400	-16800	-25200	+300

CAL YR 1985 MAX 333400 MIN 245600 (ϕ) +68100
WTR YR 1986 MAX 398700 MIN 269100 (ϕ) +70500

(†) Elevation, in feet, at end of month.
(ϕ) Change in contents, in acre-feet.

08043100 WEST FORK TRINITY RIVER AT BRIDGEPORT, TEX.

LOCATION.--Lat 33°12'07", long 97°48'09", Wise County, Hydrologic Unit 12030101, on left bank on downstream side of embankment near left end of bridge on U.S. Highway 380, 1.5 mi upstream from Village Creek, 1.8 mi upstream from Ramsey Creek, 2.6 mi west of City Hall in Bridgeport, and 2.9 mi downstream from Bridgeport Dam.

DRAINAGE AREA.--1,113 mi².

PERIOD OF RECORD.--September 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is 725.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow is regulated by Bridgeport Reservoir located 2.9 mi upstream and has a capacity of 902,000 acre-ft, 515,000 acre-ft is for temporary storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 885 ft³/s May 24, 1986 (gage height 16.17 ft); no flow Nov. 16, and 20-24, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 885 ft³/s May 24 at 2145 hours (gage height 16.17 ft); minimum, 0.42 ft³/s Sept. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	6.5	7.1	3.0	2.9	2.7	2.9	4.3	156	5.0	241	166
2	103	6.4	6.3	3.0	3.2	2.6	2.9	2.6	96	4.7	241	27
3	103	6.2	6.2	3.0	4.8	2.6	9.4	2.5	5.5	4.6	244	26
4	103	6.1	6.2	3.2	3.2	2.6	3.4	2.5	4.0	4.1	242	16
5	103	5.9	6.2	3.2	4.6	2.6	2.9	2.5	5.0	3.9	241	18
6	103	5.8	6.2	3.0	3.5	2.6	2.9	2.5	4.0	3.6	240	8.6
7	95	5.8	6.2	3.0	3.3	2.6	2.9	2.5	3.6	3.5	240	2.9
8	119	5.8	6.0	3.0	3.2	2.6	2.9	2.5	3.6	3.3	240	2.8
9	120	5.8	77	3.0	3.2	2.6	2.8	2.9	3.6	3.3	240	2.8
10	122	5.8	131	3.0	3.2	3.1	2.5	3.4	3.8	3.2	240	2.6
11	122	6.3	128	3.0	3.2	3.2	2.5	2.8	372	3.2	240	2.3
12	122	6.5	127	3.0	3.2	3.3	2.8	2.8	483	3.1	240	2.0
13	122	6.5	128	3.0	3.2	3.5	2.8	2.8	487	3.0	241	1.8
14	125	6.4	128	3.0	3.2	3.3	2.7	2.8	486	3.0	240	3.1
15	124	6.5	127	3.0	3.2	3.3	2.6	2.9	603	3.0	240	2.8
16	122	6.7	127	3.0	3.2	3.2	2.6	2.9	707	2.9	241	2.6
17	123	6.7	127	2.9	3.2	3.2	2.6	5.5	708	135	241	2.6
18	99	7.0	127	2.9	3.2	4.0	2.6	4.1	706	238	241	2.6
19	12	6.7	128	2.9	3.2	3.2	6.1	3.0	702	239	241	2.8
20	8.2	6.2	128	2.9	3.2	3.2	2.9	2.7	697	240	241	3.1
21	7.8	6.2	128	2.9	3.2	3.2	2.8	2.8	690	241	241	3.1
22	7.6	6.2	81	2.9	3.3	3.2	2.8	113	579	242	241	3.1
23	7.2	6.2	3.4	2.9	3.3	3.3	2.8	92	438	244	241	3.2
24	6.9	6.2	3.3	2.9	3.2	3.4	2.8	206	403	244	242	3.4
25	6.7	6.2	3.0	2.9	3.2	3.4	2.8	138	211	242	244	3.2
26	6.6	6.8	3.0	2.9	3.2	115	2.8	3.7	194	242	243	2.9
27	6.2	6.7	3.0	2.9	3.2	97	2.8	7.6	142	241	241	2.9
28	6.2	6.7	3.0	2.9	14	3.3	2.7	3.4	10	241	242	3.1
29	6.2	6.7	3.0	2.9	---	3.1	2.6	3.2	6.7	241	242	3.5
30	6.5	7.9	3.0	2.9	---	3.0	3.5	3.2	5.7	241	242	3.3
31	6.5	---	3.0	2.9	---	3.0	---	3.3	---	241	241	---
TOTAL	2149.6	191.4	1770.1	91.9	103.7	300.9	94.1	636.7	8915.5	3569.4	7475	330.1
MEAN	69.3	6.38	57.1	2.96	3.70	9.71	3.14	20.5	297	115	241	11.0
MAX	125	7.9	131	3.2	14	115	9.4	206	708	244	244	166
MIN	6.2	5.8	3.0	2.9	2.9	2.6	2.5	2.5	3.6	2.9	240	1.8
CFSM	.06	.01	.05	.00	.00	.01	.00	.02	.27	.10	.22	.01
IN.	.07	.01	.06	.00	.00	.01	.00	.02	.30	.12	.25	.01
AC-FT	4260	380	3510	182	206	597	187	1260	17680	7080	14830	655

CAL YR 1985 TOTAL 37040.85 MEAN 101 MAX 368 MIN .05 CFSM .09 IN. 1.24 AC-FT 73470
WTR YR 1986 TOTAL 25628.4 MEAN 70.2 MAX 708 MIN 1.8 CFSM .06 IN. .86 AC-FT 50830

08044000 BIG SANDY CREEK NEAR BRIDGEPORT, TX

LOCATION.--Lat 33°13'54", long 97°41'40", Wise County, Hydrologic Unit 12030101, at downstream side of bridge on U.S. Highway 380, 1.9 mi upstream from Greathouse Branch, 4.0 mi east of Bridgeport, and 4.4 mi upstream from mouth.

DRAINAGE AREA.--333 mi².

PERIOD OF RECORD.--October 1936 to current year.

REVISED RECORDS.--WSP 1148: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 724.44 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1984, at datum 3.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Since May 1, 1956, streamflow from 100 mi² above this station is affected at times by storage in Lake Amon G. Carter, 30 mi upstream, with a capacity of 15,240 acre-ft at elevation 920.0 ft (spillway crest). During year, the city of Bowie diverted water from Lake Amon G. Carter for municipal use and discharged sewage effluent into tributaries to Big Sandy Creek upstream from this station. Flow was also affected at times by discharge from the flood-detention pools of 19 floodwater-retarding structures with a combined capacity of 11,430 acre-ft. These structures control runoff from 46.0 mi² between this station and Lake Amon G. Carter. Gage-height telemeter at station.

AVERAGE DISCHARGE.--50 years, 71.6 ft³/s (51,870 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,000 ft³/s June 10, 1941 (gage height, 15.69 ft, datum then in use, from floodmark), from rating curve extended above 22,000 ft³/s; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1887 occurred in 1908 and 1915 and reached about the same stage as that of June 10, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,480 ft³/s Oct. 19 at 1030 hours (gage height, 13.08 ft); minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	91	21	8.4	6.6	5.4	9.0	71	170	22	.24	2010
2	.00	83	16	7.5	6.9	5.5	8.9	155	618	19	.12	730
3	.00	73	15	8.0	20	5.6	163	77	1170	19	.34	96
4	.00	62	14	7.6	22	5.5	589	44	747	18	.52	51
5	.00	54	12	7.1	18	5.4	76	36	1210	16	.40	1040
6	.00	47	11	7.2	43	5.6	27	34	1790	13	.29	1410
7	.00	44	10	7.9	24	5.5	19	32	880	11	.19	1160
8	.00	39	9.9	7.3	15	5.7	15	31	503	10	.12	337
9	.00	34	9.9	7.1	11	6.0	13	29	390	9.1	.15	99
10	.00	31	9.6	7.0	10	7.3	12	215	324	8.2	.12	65
11	.00	28	9.7	6.9	9.4	7.7	12	923	727	7.0	1.1	49
12	.00	27	9.8	7.1	8.6	12	118	1110	990	6.4	.24	39
13	.00	26	10	7.0	8.4	13	21	594	994	5.8	.12	32
14	.00	25	9.9	7.3	8.6	12	13	421	612	5.6	.02	28
15	.00	23	9.7	7.2	7.9	9.7	9.9	425	472	4.6	.01	26
16	.00	22	9.5	7.3	7.7	8.5	8.8	262	587	3.9	.01	24
17	.00	22	9.0	7.6	7.7	8.2	8.1	210	572	3.4	.01	22
18	281	20	8.4	7.6	7.5	12	8.1	273	491	3.0	.01	22
19	4150	21	8.2	7.3	7.5	20	127	283	407	2.5	.00	20
20	2360	19	8.2	7.3	7.0	15	212	204	343	2.4	.00	18
21	1420	17	8.1	7.3	6.2	11	56	139	287	2.2	.00	18
22	968	16	8.3	6.9	6.0	9.5	22	110	248	2.3	.00	17
23	729	15	8.3	6.4	5.8	9.2	15	90	223	2.0	.00	16
24	612	14	8.3	6.7	6.0	9.2	11	878	182	1.7	.00	15
25	518	14	7.9	6.8	5.8	9.2	9.2	880	87	1.4	.00	14
26	377	15	7.6	6.8	5.9	9.7	8.1	387	55	1.1	.00	14
27	237	20	7.8	6.6	6.0	9.4	7.6	293	42	.74	.00	13
28	174	18	7.6	6.7	5.6	10	7.3	230	35	.66	.00	13
29	130	18	7.6	6.8	---	9.6	7.8	142	30	.52	.00	13
30	109	16	7.7	6.6	---	9.6	8.6	96	25	.46	.00	12
31	95	---	9.5	6.4	---	9.3	---	81	---	.29	.00	---
TOTAL	12160.05	954	309.5	221.7	304.1	281.3	1622.4	8755	15211	203.27	4.01	7423
MEAN	392	31.8	9.98	7.15	10.9	9.07	54.1	282	507	6.56	.13	247
MAX	4150	91	21	8.4	43	20	589	1110	1790	22	1.1	2010
MIN	.00	14	7.6	6.4	5.6	5.4	7.3	29	25	.29	.00	12
AC-FT	24120	1890	614	440	603	558	3220	17370	30170	403	8.0	14720

CAL YR 1985 TOTAL 27089.37 MEAN 74.2 MAX 4150 MIN .00 AC-FT 53730
WTR YR 1986 TOTAL 47449.33 MEAN 130 MAX 4150 MIN .00 AC-FT 94120

08044500 WEST FORK TRINITY RIVER NEAR BOYD, TX

LOCATION.--Lat 33°05'07", long 97°33'30", Wise County, Hydrologic Unit 12030101, on right bank at downstream side of highway embankment, 10 ft right of right abutment of bridge on Farm Road 730, 0.6 mi northeast of Boyd, 3.5 mi downstream from Boggy Creek, and at mile 602.

DRAINAGE AREA.--1,725 mi^2.

PERIOD OF RECORD.--January 1947 to current year.

GAGE.--Water-stage recorder. Datum of gage is 660.57 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 14, 1954, water-stage recorder at site 2.2 mi downstream at datum 5.48 ft lower.

REMARKS.--Estimated daily discharges: May 9-12. Records good. During the current year, sustained flows at this site were the result of releases of water for downstream supply from Bridgeport Reservoir (station 08043000) 25 mi upstream from this station (drainage area, 1,111 mi^2). In addition, flow from 100 mi^2 is affected by storage in Lake Amon G. Carter (capacity, 15,240 acre-ft) on Big Sandy Creek. Flow is also affected at times by discharge from the flood-detention pools of 36 floodwater-retarding structures with a total combined detention capacity of 24,450 acre-ft. These structures control runoff from 91.2 mi^2 in the Big Sandy and Salt Creeks drainage basins. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--39 years, 228 ft^3/s (165,200 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,400 ft^3/s Oct. 14, 1981 (gage height, 25.87 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1880, about 25 ft in May 1908, present site and datum, from information by local residents, who also reported a flood of about the same gage height between 1870-80. A flood in April 1942 reached a stage of 20.6 ft, present site and datum, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,750 ft^3/s May 26 at 0800 hours (gage height, 17.53 ft); minimum daily, 14 ft^3/s Jan. 22 to Feb. 2, May 11 and July 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	153	152	54	17	14	19	16	437	192	45	229	327
2	126	142	49	17	14	18	16	206	1070	39	241	1110
3	97	128	33	16	365	15	15	158	1410	36	252	806
4	95	115	31	16	112	15	620	78	1590	37	269	402
5	95	97	30	16	54	15	324	53	1420	33	230	524
6	97	89	28	16	126	15	72	38	1390	30	228	1230
7	96	80	26	15	76	15	39	20	1470	26	229	1340
8	90	72	25	15	40	15	29	16	1300	24	229	1350
9	109	72	24	15	28	15	24	15	931	21	232	566
10	115	63	77	15	25	17	22	15	483	19	228	226
11	116	57	143	15	22	18	22	14	1040	17	233	152
12	117	55	143	15	20	21	85	600	1330	16	231	106
13	117	55	142	15	18	24	85	839	1430	16	229	80
14	117	52	143	15	19	29	30	488	1510	15	229	62
15	122	50	143	15	18	23	23	394	1380	15	227	54
16	123	46	143	15	18	20	20	329	1290	15	225	49
17	119	45	143	16	18	18	18	309	1310	14	227	44
18	133	45	143	16	18	20	18	514	1330	144	225	39
19	578	52	142	16	17	27	20	345	1320	219	224	36
20	954	49	142	15	16	29	369	252	1280	222	225	34
21	1650	39	142	15	17	23	157	184	1230	223	226	32
22	1790	36	142	14	16	20	64	140	1170	230	225	34
23	1360	36	99	14	16	17	39	246	966	230	222	32
24	967	35	24	14	16	17	31	486	757	230	224	29
25	687	33	20	14	16	16	25	1440	559	231	225	26
26	573	35	18	14	16	16	22	2580	303	229	225	25
27	430	43	17	14	16	137	21	1680	255	229	223	23
28	267	38	17	14	15	94	21	915	162	229	223	22
29	212	34	17	14	---	22	21	352	66	228	222	23
30	186	34	17	14	---	18	56	209	53	228	221	22
31	167	---	17	14	---	16	---	159	---	227	221	---
TOTAL	11858	1879	2334	466	1166	784	2324	13511	29997	3517	7099	8805
MEAN	383	62.6	75.3	15.0	41.6	25.3	77.5	436	1000	113	229	294
MAX	1790	152	143	17	365	137	620	2580	1590	231	269	1350
MIN	90	33	17	14	14	15	15	14	53	14	221	22
AC-FT	23520	3730	4630	924	2310	1560	4610	26800	59500	6980	14080	17460

CAL YR 1985 TOTAL 75598.1 MEAN 207 MAX 1790 MIN 5.7 AC-FT 149900
WTR YR 1986 TOTAL 83740 MEAN 229 MAX 2580 MIN 14 AC-FT 166100

08045000 EAGLE MOUNTAIN RESERVOIR ABOVE FORT WORTH, TX

LOCATION.--Lat 32°52'39", long 97°28'29", Tarrant County, Hydrologic Unit 12030101, at right end of main section (left) of Eagle Mountain Dam on West Fork Trinity River, 11.8 mi northwest of Fort Worth, and at mile 583.3.

DRAINAGE AREA.--1,970 mi².

PERIOD OF RECORD.--February 1934 to September 1986 (discontinued). Prior to October 1950, month-end figures only.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Nonrecording gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Feb. 24, 1943, nonrecording gages at several sites within 1.0 mi of present site at present datum.

REMARKS.--The reservoir is formed by two sections of rolled earthfill and a concrete spillway separated by high natural ground. Total length of the dam including spillway, is 4,800 ft. The dam was completed Oct. 24, 1932, and storage began Feb. 24, 1934. The spillway is a 1,300-foot-wide cut through natural ground located between the two sections of earthfill that make up the dam. The original service spillway, located in the section to the right of the main dam, contains a concrete spillway with four 25-foot bays, three are equipped with vertical lift gates and the fourth is left open. In 1971, a side-channel spillway was constructed. The newest spillway is located 300 ft to the left of the original service spillway and has six 11.25- by 22-foot-wide roller lift gates. The main section of the dam contains the outlet works that consist of two concrete conduits with two 48-inch diameter valves in each conduit. The reservoir is used for flood control and for part of the municipal water supply for the city of Fort Worth. Capacities are based on a survey made in 1968. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08044500. For storage above the reservoir, see REMARKS for West Fork Trinity River near Boyd (station 08044500). Figures given herin represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	682.0	-
Crest of spillway..	676.0	558,000
Top of gates (new side-channel spillway)........................	659.0	295,400
Crest of (old service) spillway (top of conservation pool)....	649.1	190,400
Crest of spillway (new side-channel spillway).................	637.0	99,120
Lowest gated outlet (invert)....................................	599.9	94

COOPERATION.--Daily elevation records provided by Tarrant County Water Control and Improvement District No. 1. Capacity table furnished by Freese and Nichols, Consulting Engineers for Tarrant County Water Control and Improvement District No. 1.

EXTREMES (at 0700) FOR PERIOD OF RECORD.--Maximum contents observed, 333,500 acre-ft Apr. 26, 1942 (elevation, 659.9 ft); minimum observed since first appreciable storage in 1935, 57,690 acre-ft Nov. 19, 20, 1956.

EXTREMES (at 0700) FOR CURRENT YEAR.--Maximum contents observed, 193,100 acre-ft June 5 (elevation, 649.39 ft); minimum observed 159,100 acre-ft Oct. 17 (elevation, 645.47 ft).

Capacity table (elevation, in feet, and contents, in acre-feet)

645.0	155,300
648.0	180,400
650.0	198,900

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0700

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	161600	175900	171000	167900	161000	171000	164400	166800	190300	189700	183300	182700
2	161500	175900	170500	167600	160800	170800	164200	168400	191900	189800	183200	184200
3	161500	175500	170000	167500	167000	170700	164400	168900	192200	189900	183200	185700
4	161400	175400	169500	167300	170300	170300	164400	169100	193000	190100	183400	187300
5	160700	175200	169500	167100	170800	170000	164900	169100	193100	189700	183400	187800
6	159900	175000	169300	166900	171800	169800	165600	168900	191900	189700	183200	188200
7	159600	174700	168900	166700	172000	169400	165500	168800	191300	189600	183000	189700
8	159500	174500	168800	166400	172400	169300	165300	168500	190800	189400	182900	190700
9	159100	174200	168500	166100	172400	168900	165200	168300	192500	189200	182900	191700
10	159500	174100	168500	166000	172600	168700	164800	168200	192100	188800	182800	191700
11	159300	173900	168700	165700	172400	168500	164400	168200	191000	188400	182800	191200
12	159200	173600	168700	165600	172300	168500	164300	168600	189500	188000	183200	190300
13	159200	173300	168600	165300	172200	168500	164100	169400	189300	187600	182900	190100
14	159500	173300	168400	165100	172100	168900	164000	170400	189400	187300	182700	190300
15	159300	173600	168400	164800	172100	168600	163700	171100	190000	186800	182700	189700
16	159200	173400	168500	164500	172000	168300	163500	171500	190900	186000	182700	189600
17	159100	173300	168600	164400	172000	168000	163100	171900	191100	185300	182700	189300
18	160500	173000	168700	164200	172100	168200	163000	174500	190900	184600	182800	189200
19	162200	172900	168700	164000	172100	168000	162700	175200	190500	184300	182700	188900
20	164200	172700	168800	163800	172000	167600	163200	175500	190300	184300	182700	188700
21	165800	172300	168900	163500	172000	167200	163800	175600	190100	184300	182600	188400
22	167600	172000	169000	163200	171900	168400	164000	175400	189900	184500	182500	188200
23	169800	171700	169200	163000	171700	166400	164000	175300	189600	184300	182400	188000
24	172000	171500	169200	162900	171700	166000	164000	175400	189700	184500	182300	187800
25	174000	171400	169100	162700	171500	165700	163900	183800	190200	184300	182200	187400
26	175000	171600	168700	162500	171500	165500	163700	186900	189900	184300	182100	186900
27	175800	171500	168700	162300	171500	165300	163400	189200	189500	184000	182100	186600
28	176200	171300	168400	162000	171400	165300	164000	190500	189700	183900	182200	186100
29	176500	170800	168200	161800	---	165200	163800	190500	190000	183800	182300	185700
30	176500	170500	167900	161500	---	164900	163700	189200	190100	183600	182100	185500
31	176500	---	168100	161200	---	164700	---	189100	---	183600	182000	---
MAX	176500	175900	171000	167900	172600	171000	165600	190500	193100	190100	183400	191700
MIN	159100	170500	167900	161200	160800	164700	162700	166800	189300	183600	182000	182700
(†)	647.55	646.86	646.57	645.74	646.96	646.16	646.04	648.95	649.06	648.35	648.18	648.56
(‡)	+14400	-6000	-2400	-6900	+10200	-6700	-1000	+25400	+1000	-6500	-1600	+3500

CAL YR 1985 MAX 177900 MIN 121400 (‡) +49800
WTR YR 1986 MAX 193100 MIN 159100 (‡) +23400

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

08045400 LAKE WORTH ABOVE FORT WORTH, TX

LOCATION.--Lat 32°47'21", long 97°24'58", Tarrant County, Hydrolgoic Unit 12030102, on top of Lake Worth Dam on West Fork Trinity River, 240 ft to right of right end of uncontrolled concrete spillway, 2.9 mi upstream from Farmer's Branch, 3.3 mi upstream from bridge on State Highway 183 crossing West Fork Trinity River, 5.3 mi northwest of Tarrant County Courthouse in Fort Worth, and at river mile 572.0.

DRAINAGE AREA.--2,064 mi².

PERIOD OF RECORD.--October 1981 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

Remarks.--The lake is formed by a rolled earthfill dam 3,200 ft long, with an uncontrolled concrete spillway 700 ft long near the center of the dam. Deliberate impoundment began in June 1914 and the dam was completed in October 1914. There is a 48-inch diameter pipe controlled by a 36-inch valve, which may be used to make small releases through the dam. The dam is owned by the city of Fort Worth. Area-capacity curves are based on a survey made in 1968. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	606.3	-
Crest of concrete spillway.........................	594.0	37,070
Lowest gated outlet (invert).......................	584.25	12,290

COOPERATION.--Copies of the capacity table (prepared by the U.S. Army Corps of Engineers), and area-capacity curves (prepared by Freese, Nichols, and Endress, Consulting Engineers) were provided by Tarrant County Water Control and Improvement District No. 1.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 53,900 acre-ft Oct. 15, 1981, at 0800 hours (elevation, 598.23 ft); minimum 24,730 acre-ft Sept. 9-10, 1985 (elevation, 589.95 ft).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum contents observed, 52,080 acre-ft May 25, 1957 (elevation, 598.47 ft); minimum observed, 20,540 acre-ft June 30, 1955 (elevation, 589.45 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 41,140 acre-ft June 3 at 1230 hours (elevation, 595.12 ft, from graph); minimum, 24,730 acre-ft Feb. 28 to Mar. 1 (elevation, 589.95 ft).

Capacity table (elevation, in feet, and contents, in acre-feet)

589.0	22,300	592.0	30,540
590.0	24,860	594.0	37,070
591.0	27,600	596.0	44,520

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25320	24830	25540	25320	24880	24730	26470	26170	39950	36760	32710	34230
2	25510	24800	25510	25240	25650	24800	26360	25920	39630	36560	32710	34100
3	25650	24830	25540	25180	26940	24800	26800	25680	40600	36420	32750	34030
4	25540	24800	25650	25130	26990	24830	26880	25460	40020	36320	32900	33860
5	25510	24830	25650	25020	27270	24860	26880	25240	40600	35990	32970	34060
6	25510	24830	25680	24960	27270	24860	26940	25400	40200	35610	32930	34400
7	25510	24800	25730	24960	27210	24880	27020	25400	39880	35340	33000	34770
8	25490	24750	25730	24940	27070	24880	27020	25810	40640	34940	33060	35450
9	25290	24780	25730	24860	27070	24910	26880	25920	40240	34670	33060	36220
10	25290	24830	25920	24860	26990	25020	26880	26090	40060	34330	33830	36900
11	25290	24830	26170	24860	26940	25160	26880	26230	40170	33960	34030	37460
12	25240	24860	26090	24830	26860	25180	27020	26310	39770	33690	34100	37170
13	25180	24880	25920	24780	26640	25350	26910	26360	39270	33380	34230	36900
14	25160	25160	25870	24830	26500	25510	26990	26360	39120	33150	34260	36630
15	25020	25180	25870	24860	26420	25620	26990	26360	39160	33060	34230	36360
16	24940	25160	25810	24880	26390	25680	26880	26360	39380	33000	34200	36120
17	25160	25180	25790	25070	26280	25680	26800	27620	39590	32970	34100	35920
18	25290	25160	25790	25160	26140	26140	26940	27800	39520	32930	34060	35650
19	25620	25160	25700	25270	26010	26030	28210	27770	39410	32930	33960	35340
20	25400	24990	25680	25290	25870	26170	28010	27770	39380	32930	33890	35140
21	25160	25130	25680	25290	25680	26200	27830	27770	39300	32750	33890	34940
22	24960	25130	25590	25270	25620	26230	27510	27800	39340	33340	33860	34700
23	24960	25180	25570	25210	25490	26330	27320	27830	39230	33440	33860	34400
24	24960	25160	25540	25160	25350	26360	27160	29390	38910	33280	33860	34130
25	24880	25160	25460	25070	25180	26360	26880	29740	38690	33190	33860	33930
26	24960	25490	25400	25020	25130	26420	26640	30270	38510	33150	33860	33790
27	24960	25320	25400	24940	24940	26390	26550	31580	38080	33150	33990	33690
28	24940	25350	25400	24910	24730	26390	26360	33530	37570	33090	33860	33660
29	24940	25400	25380	24910	---	26360	26200	35880	37210	33000	33790	33530
30	25160	25700	25350	24910	---	26360	26360	37210	36900	32930	33660	33500
31	24800	---	25350	24830	---	26360	---	37610	---	32870	33630	---
MAX	25650	25700	26170	25320	27270	26420	28210	37610	40640	36760	34260	37460
MIN	24800	24750	25350	24780	24730	24730	26200	25240	36900	32750	32710	33500
(†)	589.98	590.31	590.18	589.99	589.95	590.55	590.55	594.15	593.95	592.74	592.98	592.94
(‡)	-690	+900	-350	-520	-100	+1630	0	+11250	-710	-4030	+760	-130

CAL YR 1985 MAX 28150 MIN 24730 (‡) -600
WTR YR 1986 MAX 40640 MIN 24730 (‡) +8010

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

08046500 BENBROOK LAKE NEAR BENBROOK, TX

LOCATION.--Lat 32°39'02", long 97°26'54", Tarrant County, Hydrologic Unit 12030102, in intake structure of Benbrook Dam on Clear Fork Trinity River, 2.5 mi south of Benbrook, 3.5 mi upstream from Marys Creek, and 14.6 mi upstream from mouth.

DRAINAGE AREA.--429 mi².

PERIOD OF RECORD.--September 1952 to current year. Prior to October 1970, published as Benbrook Reservoir.
Water-quality records.--Chemical analyses: October 1969 to September 1982.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a rolled earthfill dam 9,130 ft long, including a 500-foot uncontrolled off-channel concrete-gravity spillway with a 100-foot notch in center of ogee weir section. The outlet works consist of a 13.0-foot-diameter concrete conduit controlled by two 6.5- by 13.0-foot broome-type gates and two 30-inch steel pipes controlled by slide gates. Deliberate impoundment began Sept. 29, 1952. From August 1950 to Sept. 28, 1952, the lake was operated as a detention basin only. The capacity table is based on a survey made in 1945. The lake was built for flood control, navigation, and low-flow regulation. Inflow is affected at times by the discharge from flood-detention pools of 12 floodwater-retarding structures with a combined detention capacity of 11,170 acre-ft. These structures control runoff from 37.6 mi². Gage-height telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	747.0	-
Crest of spillway	724.0	258,600
Crest of notch in spillway	710.0	164,800
Top of conservation storage	694.0	88,250
Crest of intake to wet wells (inverts)	656.0	6,550
Lowest gated outlet (invert)	622.0	12

COOPERATION.--Records of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 185,000 acre-ft June 6, 1957 (elevation, 713.35 ft); minimum since lake first filled in 1957, 61,450 acre-ft Oct. 10, 1984 (elevation, 686.16 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 114,000 acre-ft June 12 at 1500 hours (elevation, 700.21 ft); minimum daily, 76,070 acre-ft Jan. 29 at 1700 hours (elevation, 690.63 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

690.0	73,900	696.0	95,990	702.0	122,300
693.0	84.530	699.0	108,600		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78300	78300	77600	76900	76070	79400	79150	81040	88860	91450	87760	86460
2	78230	78230	77560	76860	76100	79370	79190	81070	90160	91300	87650	86940
3	78200	78200	77490	76830	77770	79400	79330	81040	97410	91530	88320	87060
4	78020	78160	77490	76760	78760	79370	79540	81040	99440	91720	88360	87130
5	77950	78090	77450	76760	79220	79330	79580	81040	104700	91570	88320	87470
6	77880	78020	77420	76690	79440	79300	79620	81040	106900	91380	88250	87500
7	77810	77910	77380	76620	79540	79260	79620	81040	108000	91220	88170	87470
8	77700	77910	77350	76590	79580	78520	79510	81400	108700	91030	88020	87470
9	77670	77910	77350	76590	79650	79260	79510	81840	110100	90880	87950	87470
10	77630	77810	77450	76550	79680	79190	79620	82310	110900	90650	88060	87500
11	77630	77770	77450	76520	79720	79190	79620	82160	113500	90420	88060	87350
12	77630	77770	77450	76520	79720	79190	79620	82160	113800	90190	87990	87320
13	77560	77770	77350	76480	79720	79220	79620	82160	113200	89960	87910	87200
14	77490	77770	77350	76450	79680	79260	79540	82130	112500	89770	87760	87200
15	77450	77910	77310	76450	79720	79300	79510	82090	111900	89580	87650	87170
16	77420	77910	77280	76450	79680	79330	79470	82090	110800	89390	87580	87090
17	77560	77910	77240	76450	79650	79330	79470	83360	109500	89240	87500	87060
18	77810	77950	77210	76450	79650	79470	79470	83980	108000	89090	87430	87020
19	78690	77810	77170	76450	79680	79440	80320	84120	106800	89010	87320	86910
20	78800	77740	77170	76450	79620	79400	80500	84200	105100	88940	87170	86830
21	78800	77740	77140	76380	79620	79400	80500	84230	103400	88970	87020	86760
22	78760	77700	77140	76350	79620	79370	80460	84230	101700	89120	86910	86680
23	78760	77630	77070	76310	79580	79330	80460	84230	99880	89090	86760	86610
24	78730	77630	77070	76280	79580	79330	80430	84230	98100	89010	86720	86540
25	78690	77630	77040	76240	79540	79300	80390	84560	96270	88860	86650	86460
26	78660	77770	77000	76210	79540	79260	80360	84670	95120	88710	86570	86390
27	78590	77770	76930	76170	79470	79260	80320	85010	94380	88520	86460	86270
28	78480	77740	76930	76100	79440	79260	80320	85190	93590	88360	86310	86270
29	78440	77700	76930	76070	---	79220	80320	85270	92730	88210	86200	86240
30	78340	77740	76930	76070	---	79190	80460	85340	91910	88100	86090	86160
31	78340	---	76900	76070	---	79190	---	85570	---	87910	85980	---
MAX	78800	78300	77600	76900	79720	79470	80500	85570	113800	91720	88360	87500
MIN	77420	77630	76900	76070	76070	78520	79150	81040	88860	87910	85980	86160
(†)	691.28	691.11	690.87	690.63	691.59	691.52	691.88	693.28	694.96	693.91	693.39	693.44
(ϕ)	-1310	-600	-840	-830	+3370	-250	+1270	+5110	+6340	-4000	-1930	+180

CAL YR 1985	MAX	102000	MIN	69940	(ϕ)	+7880
WTR YR 1986	MAX	113800	MIN	76070	(ϕ)	+6510

(†) Elevation, in feet, at end of month.
(ϕ) Change in contents, in acre-feet.

08047000 CLEAR FORK TRINITY RIVER NEAR BENBROOK, TX

LOCATION.--Lat 32°39'54", long 97°26'30", Tarrant County, Hydrologic Unit 12030102, on left bank 1.5 mi downstream from Benbrook Dam, 1.7 mi southeast of Benbrook, 2.9 mi upstream from Marys Creek, and 13.1 mi upstream from mouth.

DRAINAGE AREA.--431 mi^2.

PERIOD OF RECORD.--July 1947 to current year.
Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 604.22 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Benbrook Lake (station 08046500) since September 1952. There is a diversion 1.0 mi upstream for Pecan Valley Golf Course. Gage-height telemeter at station.

AVERAGE DISCHARGE.--5 years (water years 1948-52) prior to regulation by Benbrook Lake, 105 ft^3/s (76,070 acre-ft/yr); 34 years (water years 1953-86) regulated, unadjusted, 66.1 ft^3/s (47,890 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 82,900 ft^3/s May 17, 1949 (gage height, 28.72 ft), from rating curve extended above 11,000 ft^3/s on basis of velocity-area studies and slope-area measurement of 82,900 ft^3/s; no flow at times most years. Maximum discharge since construction of Benbrook Dam in 1952, 4,710 ft^3/s May 7, 1979 (gage height, 11.27 ft); maximum gage height, 12.20 ft Apr. 7, 1977.
Maximum stage since at least 1922, that of May 17, 1949.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,000 ft^3/s June 8 at 1745 hours (gage height, 6.19 ft); minimum daily, 5.3 ft^3/s Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	11	9.0	9.0	9.2	13	7.7	12	101	200	8.4	14
2	6.6	11	9.0	8.2	9.9	13	7.2	8.7	20	48	9.2	11
3	5.6	11	8.8	7.7	14	13	9.6	9.0	40	50	17	12
4	5.3	9.2	8.4	7.9	8.1	12	20	9.0	15	51	9.0	12
5	8.8	9.1	7.7	9.0	11	20	16	8.3	23	52	8.7	12
6	7.0	8.7	7.5	8.9	9.1	24	14	6.6	12	52	9.9	14
7	6.7	8.4	8.1	8.7	8.6	28	14	6.2	11	52	8.4	12
8	7.1	8.6	8.1	10	8.5	33	13	16	590	52	7.4	12
9	7.3	8.9	8.3	9.3	9.0	33	13	86	405	51	7.2	12
10	7.6	9.0	9.0	9.2	9.0	19	14	184	193	49	7.8	12
11	7.8	8.5	9.3	9.4	9.2	8.3	14	155	172	50	8.9	11
12	7.5	7.8	9.2	10	18	9.3	14	9.6	359	51	7.4	11
13	8.5	7.9	9.0	9.6	24	9.2	14	8.6	627	50	7.2	12
14	8.8	7.8	9.0	9.2	24	8.8	14	8.1	618	49	7.0	11
15	8.2	9.7	9.0	8.1	24	9.7	12	8.1	616	33	8.3	10
16	8.1	9.5	9.0	8.6	24	10	12	8.2	778	23	9.0	9.3
17	10	9.5	9.0	9.2	24	9.2	13	19	907	22	9.2	9.7
18	12	9.9	8.6	10	18	9.6	14	9.0	901	16	8.6	10
19	24	10	8.2	10	12	8.9	64	9.0	814	12	17	9.1
20	9.6	10	8.5	9.0	12	8.8	15	8.4	958	13	8.8	10
21	9.5	9.8	8.5	9.9	12	9.2	13	8.1	944	8.8	8.8	9.7
22	9.6	9.0	8.5	9.9	12	9.6	13	7.1	930	7.7	9.1	8.9
23	9.6	10	8.2	9.6	12	9.2	13	7.5	920	7.0	10	8.2
24	8.7	9.7	8.3	9.7	11	8.8	12	9.7	913	6.2	11	7.6
25	8.8	9.2	9.0	9.5	19	8.0	12	14	907	26	10	6.6
26	9.8	9.9	8.9	9.5	25	8.3	12	8.8	623	30	9.6	6.5
27	10	10	9.0	9.5	18	7.2	12	9.2	400	33	9.5	8.1
28	10	8.5	9.0	9.2	13	8.0	11	8.3	400	32	9.9	8.7
29	11	8.5	9.0	8.7	---	8.5	11	7.9	397	19	9.6	6.3
30	11	8.7	8.9	8.9	---	8.5	12	7.4	395	8.0	9.8	5.9
31	11	---	8.8	9.0	---	8.3	---	8.2	---	8.2	9.9	---
TOTAL	281.6	278.8	268.8	284.4	407.6	393.4	435.5	685.0	14989	1161.9	290.6	302.6
MEAN	9.08	9.29	8.67	9.17	14.6	12.7	14.5	22.1	500	37.5	9.37	10.1
MAX	24	11	9.3	10	25	33	64	184	958	200	17	14
MIN	5.3	7.8	7.5	7.7	8.1	7.2	7.2	6.2	11	6.2	7.0	5.9
AC-FT	559	553	533	564	808	780	864	1360	29730	2300	576	600

CAL YR 1985 TOTAL 18922.5 MEAN 51.8 MAX 641 MIN 1.2 AC-FT 37530
WTR YR 1986 TOTAL 19779.2 MEAN 54.2 MAX 958 MIN 5.3 AC-FT 39230

08047500 CLEAR FORK TRINITY RIVER AT FORT WORTH, TX

LOCATION.--Lat 32°43'56", long 97°21'31", Tarrant County, Hydrologic Unit 12030102, at Fort Worth pumping station on left bank, 240 ft upstream from the Texas and Pacific Railway Co. bridge in Fort Worth, 830 ft upstream from East-West Expressway bridge, 2.5 mi upstream from mouth, 5 mi downstream from Marys Creek, and 10 mi downstream from Benbrook Dam.

DRAINAGE AREA.--518 mi².

PERIOD OF RECORD.--March 1924 to current year.

REVISED RECORDS.--WSP 1392: 1924-25, 1927. WSP 1922: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 532.91 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 3, 1970, various nonrecording and recording gages were located within 650 ft of present site at different datums.

REMARKS.--No estimated daily discharges. Since September 1952, flow largely regulated by Benbrook Lake (station 08046500). The city of Fort Worth diverted water from pool at gage during the current year. The Benbrook Water and Sewage Authority diverted water from the river upstream from the station for municipal use. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--28 years (water years 1925-52) prior to regulation by Benbrook Lake, 112 ft³/s (81,140 acre-ft/yr); 34 years (water years 1953-86) regulated, unadjusted, 96.9 ft³/s (70,200 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 107,000 ft³/s May 17, 1949 (gage height, 28.20 ft, present datum), from rating curve extended above 16,000 ft³/s on basis of contracted-opening measurement of 107,000 ft³/s; no flow at times most years. Maximum stage since at least 1900, 28.20 ft May 17, 1949, present datum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 25, 1922, reached a stage of 27.5 ft, present datum (discharge, 74,300 ft³/s, by slope-area measurement of peak flow); data furnished by Fort Worth city engineer.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,590 ft³/s Apr. 19 at 1600 hours (gage height, 13.52 ft); minimum, no flow part of May 7-8, due to pumping from pool at gage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	26	36	15	14	27	13	179	1840	237	9.0	308
2	13	26	23	15	18	28	13	45	522	27	6.4	131
3	10	18	22	14	415	28	98	33	1590	57	488	36
4	7.6	17	21	13	64	28	194	27	281	89	58	51
5	6.4	16	19	14	149	22	135	23	635	85	24	113
6	8.6	15	16	16	78	13	31	21	266	76	19	96
7	8.2	13	16	15	40	.13	27	18	195	72	16	33
8	7.9	13	17	15	36	2.3	23	244	1150	72	14	29
9	9.0	13	18	16	45	6.0	18	325	998	72	14	23
10	9.5	15	34	16	35	9.2	27	581	332	72	59	21
11	32	15	55	15	32	16	28	236	859	68	38	18
12	17	15	29	15	20	27	23	54	452	64	25	15
13	12	15	24	14	9.4	33	24	35	799	64	19	16
14	17	15	21	14	9.3	40	20	31	774	64	15	16
15	15	94	20	18	21	28	21	28	784	48	14	15
16	11	27	20	15	11	23	21	23	914	35	12	15
17	69	21	18	15	7.5	19	22	503	1080	33	12	14
18	119	25	17	15	9.9	88	19	131	1090	30	11	14
19	525	23	16	15	25	28	1360	57	980	19	11	13
20	47	17	16	15	25	21	151	42	1090	18	15	12
21	31	16	16	14	21	17	51	38	1070	17	10	11
22	27	15	18	14	21	19	37	33	1040	81	8.9	11
23	24	18	18	15	24	25	33	31	1030	20	8.0	8.8
24	17	20	18	15	28	18	35	860	1000	15	7.9	8.5
25	15	19	16	15	15	15	25	309	1000	14	8.0	8.4
26	14	74	16	14	2.6	15	24	72	718	39	7.4	6.0
27	15	84	17	12	30	13	47	114	378	37	7.8	4.2
28	17	25	18	14	27	14	32	52	378	37	8.7	34
29	28	21	18	15	---	14	23	41	378	33	9.5	41
30	27	26	16	15	---	12	139	38	378	14	9.3	13
31	20	---	16	14	---	13	---	75	---	10	10	---
TOTAL	1200.2	757	645	457	1232.7	661.63	2714	4299	24001	1619	974.9	1134.9
MEAN	38.7	25.2	20.8	14.7	44.0	21.3	90.5	139	800	52.2	31.4	37.8
MAX	525	94	55	18	415	88	1360	860	1840	237	488	308
MIN	6.4	13	16	12	2.6	.13	13	18	195	10	6.4	4.2
AC-FT	2380	1500	1280	906	2450	1310	5380	8530	47610	3210	1930	2250

CAL YR 1985 TOTAL 29632.57 MEAN 81.2 MAX 1330 MIN .00 AC-FT 58780
WTR YR 1986 TOTAL 39696.33 MEAN 109 MAX 1840 MIN .13 AC-FT 78740

08048000 WEST FORK TRINITY RIVER AT FORT WORTH, TX

LOCATION.--Lat 32°45'39", long 97°19'56", Tarrant County, Hydrologic Unit 12030102, on left bank 125 ft upstream from Texas Electric Service Co.'s concrete dam, 980 ft downstream from centerline of Paddock Viaduct (North Main Street) at Fort Worth, 2,600 ft downstream from Clear Fork Trinity River, and at mile 556.8.

DRAINAGE AREA.--2,615 mi².

PERIOD OF RECORD.--October 1920 to current year. Gage-height records collected in this vicinity since 1910 are contained in reports of the National Weather Service.
Water-quality records.--Chemical and biochemical analyses: October 1967 to September 1976.

REVISED RECORDS.--WSP 1392: 1925. WSP 1922: Drainage area.

GAGE.--Water-stage recorder and concrete dam control with angle-iron-crested notch for flow below 50 ft³/s. Datum of gage is 519.24 ft above Texas Reclamation Department datum. Prior to Aug. 22, 1954, at site 1,200 ft upstream at same datum. Aug. 22, 1954, to Oct. 15, 1955, at site 2,000 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow is largely regulated by Lake Worth (station 08045400) on the West Fork Trinity River and by Benbrook Lake (station 08046500) on the Clear Fork Trinity River. At times, flow is sustained by releases from the flood-detention pool of Benbrook Lake. The city of Fort Worth diverts water upstream from station and from Cedar Creek Reservoir (station 08063010) for municipal and industrial uses and returns sewage effluent to river downstream from station 08048543. There are many small diversions upstream from station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--66 years, 363 ft³/s (263,000 acre-ft/yr, unadjusted).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 85,000 ft³/s, Apr. 25, 1922 (gage height, 23.95 ft), site then in use, by slope-area measurement of peak flow by city engineer of Fort Worth; maximum gage height, 25.91 ft May 17, 1949, site then in use (discharge, 64,300 ft³/s); no flow at times. Maximum stage since at least 1866, that of May 17, 1949. Maximum stages have been affected by levee construction, levee breaks, and channel rectification.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,400 ft³/s May 24 at 1530 hours (gage height, 6.31 ft); minimum daily, 8.3 ft³/s Sept. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	58	81	34	36	29	25	355	4110	337	16	599
2	29	55	40	35	55	29	23	74	2400	51	16	188
3	20	38	36	35	795	29	201	41	5170	110	718	43
4	20	36	36	45	98	29	280	35	2500	160	104	80
5	21	36	35	51	275	30	259	34	2960	144	38	170
6	23	39	33	50	157	25	43	31	2660	125	30	95
7	24	40	34	37	56	17	36	29	2140	119	25	38
8	23	39	34	33	47	12	31	292	3810	115	21	34
9	25	42	34	33	61	14	28	440	3300	115	20	28
10	27	47	61	34	50	17	31	912	2350	120	186	29
11	52	47	142	34	40	24	36	333	3280	114	61	95
12	32	48	47	35	34	31	33	129	2310	115	40	155
13	23	52	40	33	22	46	30	65	2110	121	27	59
14	25	54	35	31	20	99	28	52	1880	118	22	38
15	29	262	35	35	28	33	26	48	1880	110	18	26
16	21	54	36	37	26	33	25	42	2320	58	15	19
17	147	40	36	36	20	27	24	858	2500	52	16	16
18	275	52	36	36	22	204	26	250	2500	46	14	18
19	989	51	35	37	31	45	2380	129	2250	37	13	21
20	80	37	36	36	34	34	283	103	2340	31	15	21
21	40	35	35	35	29	30	92	80	2170	34	14	22
22	45	35	37	35	29	29	60	63	2140	210	12	22
23	38	39	37	36	29	34	48	52	2130	40	11	20
24	33	38	36	36	26	32	54	2280	1980	28	12	17
25	27	37	35	37	24	28	44	650	1780	23	14	12
26	26	169	36	35	14	28	43	173	1430	49	12	9.1
27	25	176	35	31	19	30	115	298	974	53	12	8.3
28	26	42	38	32	30	32	55	123	770	49	15	82
29	41	35	38	34	---	29	35	101	575	46	15	37
30	43	51	36	35	---	29	201	98	493	29	13	20
31	34	---	34	35	---	29	---	336	---	18	13	---
TOTAL	2296	1784	1299	1118	2107	1137	4595	8506	69212	2777	1558·	2021.4
MEAN	74.1	59.5	41.9	36.1	75.3	36.7	153	274	2307	89.6	50.3	67.4
MAX	989	262	142	51	795	204	2380	2280	5170	337	718	599
MIN	20	35	33	31	14	12	23	29	493	18	11	8.3
AC-FT	4550	3540	2580	2220	4180	2260	9110	16870	137300	5510	3090	4010

CAL YR 1985 TOTAL 42877.4 MEAN 117 MAX 1890 MIN 4.3 AC-FT 85050
WTR YR 1986 TOTAL 98410.4 MEAN 270 MAX 5170 MIN 8.3 AC-FT 195200

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX

LOCATION.--Lat 32°45'06", long 97°17'21", Tarrant County, Hydrologic Unit 12030102, at downstream side of bridge on Beach Street, 1,700 ft downstream from Sycamore Creek, 0.9 mi downstream from Riverside Drive bridge, 2.6 mi east of the Tarrant County Courthouse, and at mile 549.6.

DRAINAGE AREA.--2,685 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 478.70 ft above National Geodetic Vertical Daum of 1929, State Department of Highways and Public Transportation datum.

REMARKS.--Estimated daily discharges: Apr. 29-30. Records fair. Flow is largely regulated by Lake Worth on the West Fork Trinity River and by Benbrook Lake (station 08046500) on the Clear Fork Trinity River. At times, flow is sustained by releases from the flood-detention pool of Benbrook Lake. There are many diversions upstream from this station for municipal, industrial, and other uses. Gage-height telemeter at station.

AVERAGE DISCHARGE.--10 years, 361 ft³/s (261,500 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,700 ft³/s Oct. 13, 1981 (gage height, 36.26 ft); minimum, 0.84 ft³/s July 25, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1866 probably occurred in May 1949 (stage and discharge unknown). Maximum stages have been affected by levee construction, levee breaks, and channel rectification.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,700 ft³/s May 24 at 1830 hours (gage height, 27.48 ft); minimum daily, 8.3 ft³/s Aug. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	66	93	47	31	26	37	539	3590	451	30	1240
2	31	64	49	48	41	28	34	121	4810	80	28	717
3	23	47	44	47	1410	27	216	68	5380	101	1220	78
4	18	42	45	52	161	25	649	55	4850	137	412	76
5	18	42	45	67	577	26	643	50	3950	131	56	257
6	19	40	44	70	440	24	69	48	3580	110	43	385
7	18	37	44	61	76	20	50	44	3210	105	36	80
8	18	38	44	56	67	19	41	423	3530	97	30	53
9	18	40	37	60	78	16	38	1080	4480	95	25	40
10	21	39	63	60	81	21	42	2400	3250	95	284	34
11	50	40	197	52	50	29	47	391	3990	88	128	44
12	40	39	75	50	45	36	49	168	3140	87	53	155
13	28	39	55	51	38	56	45	66	2970	84	37	95
14	28	39	49	52	32	101	41	56	2590	84	35	51
15	30	695	42	46	29	51	40	55	2700	79	26	39
16	23	77	44	57	28	39	39	57	2910	61	22	30
17	114	50	45	46	25	36	39	1910	3160	56	21	25
18	571	57	46	44	16	261	41	604	3230	51	20	20
19	2120	53	47	52	19	65	2500	143	2920	47	19	20
20	194	44	45	48	29	46	1140	95	2990	42	17	25
21	72	40	50	42	30	39	169	77	2860	37	18	25
22	69	40	54	37	28	35	80	67	2790	211	16	25
23	58	39	52	31	27	35	61	61	2780	65	8.3	20
24	51	39	50	31	31	37	60	2710	2670	49	18	18
25	52	38	50	34	31	35	76	2510	2480	37	16	18
26	48	215	51	31	29	34	52	435	2170	37	17	17
27	45	230	51	30	20	35	174	551	1600	46	17	16
28	45	56	50	32	28	39	120	177	1170	55	17	20
29	69	43	50	30	---	39	79	139	771	55	18	91
30	66	57	46	29	---	41	91	113	595	49	18	37
31	54	---	48	31	---	39	---	693	---	39	19	---
TOTAL	4045	2385	1705	1424	3497	1360	6762	15906	91116	2761	2724.3	3751
MEAN	130	79.5	55.0	45.9	125	43.9	225	513	3037	89.1	87.9	125
MAX	2120	695	197	70	1410	261	2500	2710	5380	451	1220	1240
MIN	18	37	37	29	16	16	34	44	595	37	8.3	16
AC-FT	8020	4730	3380	2820	6940	2700	13410	31550	180700	5480	5400	7440

CAL YR 1985 TOTAL 43624.9 MEAN 120 MAX 2580 MIN 4.8 AC-FT 86530

WTR YR 1986 TOTAL 137436.3 MEAN 377 MAX 5380 MIN 8.3 AC-FT 272600

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1976 to current year.
pH: October 1976 to current year.
WATER TEMPERATURES: October 1976 to current year.
DISSOLVED OXYGEN: October 1976 to current year.

INSTRUMENTATION.--Beginning October 1976, a four-parameter water-quality monitor records temperature, DO, pH, and specific conductance continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum or minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 2,000 microsiemens Nov. 6, 1978; minimum, 102 microsiemens June 7, 1982 and May 9, 1986.
pH: Maximum, 9.8 units Aug. 8, Sept. 2. 1980; minimum, 0.0 units Jan. 31, Feb. 1, 2, 1985.
WATER TEMPERATURES: Maximum, 38.0°C July 14, 16, 1978; minimum, 0.0°C Jan. 31, Feb. 1, 2, 1985.
DISSOLVED OXYGEN: Maximum, 22.1 mg/L Oct. 4, 1983; minimum, 0.0 mg/L on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 701 microsiemens Mar. 10; minimum daily, 102 microsiemens May 9.
pH: Maximum, 8.8 units Apr. 30; minimum, 7.0 units Aug. 10.
WATER TEMPERATURES: Maximum, 36.0°c July 29, Aug. 1, 18.
DISSOLVED OXYGEN: Maximum, 19.6 mg/L Mar. 2; minimum, 0.0 mg/L Sept. 29.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 12...	1100	39	564	7.80	16.0	9.0	91	1.4	200	32
JAN 28...	1100	32	624	8.20	8.0	14.0	--	2.1	230	41
APR 14...	0945	41	504	7.60	20.0	8.4	93	1.8	180	30
JUN 16...	0945	2910	398	7.90	26.0	7.5	94	1.6	140	11
JUL 21...	1100	37	518	7.30	32.0	6.7	--	1.9	180	23
SEP 08...	1000	53	358	7.30	23.0	6.3	74	1.7	140	27

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
NOV 12...	68	7.0	35	1	6.8	167	58	43	0.4	5.0
JAN 28...	76	8.8	42	1	7.9	185	58	53	0.4	1.6
APR 14...	63	6.1	28	0.9	8.8	152	52	33	0.4	6.1
JUN 16...	47	6.7	21	0.8	5.7	134	26	25	0.3	4.3
JUL 21...	58	7.7	32	1	6.1	154	46	38	0.3	6.8
SEP 08...	50	4.3	19	0.7	4.2	116	31	24	0.3	7.2

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)
NOV 12...	320	0.75	0.05	0.80	0.15	0.55	0.7	0.12	3
JAN 28...	360	0.28	0.02	0.30	0.24	0.56	0.8	0.17	--
APR 14...	290	0.51	0.09	0.60	0.33	0.77	1.1	0.09	--
JUN 16...	220	0.18	0.02	0.20	0.07	0.63	0.7	0.08	--
JUL 21...	290	0.18	0.02	0.20	0.05	0.95	1.0	0.07	--
SEP 08...	210	0.54	0.06	0.60	0.16	0.74	0.9	0.08	--

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICRO MHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	4045	316	180	1970	17	181	30	329	120
NOV. 1985	2385	460	262	1690	33	214	45	293	160
DEC. 1985	1705	537	306	1410	45	205	54	249	180
JAN. 1986	1424	584	333	1280	52	201	59	228	190
FEB. 1986	3497	424	242	2280	28	268	41	391	150
MAR. 1986	1360	533	304	1120	44	162	54	197	180
APR. 1986	6762	394	224	4100	24	444	38	697	150
MAY 1986	15906	384	219	9400	24	1030	37	1600	140
JUNE 1986	91116	390	222	54700	24	5800	38	9280	150
JULY 1986	2761	453	258	1920	32	237	45	332	160
AUG. 1986	2724.3	432	246	1810	29	216	42	311	160
SEPT 1986	3751	343	196	1980	19	192	33	333	130
TOTAL	137436.3	**	**	83700	**	9140	**	14200	**
WTD.AVG.	377	395	225	**	25	**	38	**	150

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	400	364	383	472	278	428	464	398	438	619	587	602
2	362	350	355	442	420	430	496	466	480	653	579	602
3	406	388	401	490	444	466	505	494	500	639	581	599
4	438	406	423	498	484	492	555	505	515	621	561	588
5	480	442	462	503	486	492	549	503	510	593	557	573
6	468	440	456	509	492	500	531	507	519	601	549	567
7	464	432	449	527	498	510	543	531	536	599	563	584
8	450	424	433	549	527	538	549	529	536	---	---	580
9	474	450	460	557	539	550	551	509	541	---	---	577
10	476	448	464	557	531	543	559	418	518	---	---	570
11	474	374	419	543	531	535	482	402	459	---	---	582
12	434	390	413	559	535	549	531	486	510	---	---	566
13	450	430	440	559	543	551	629	511	548	---	---	590
14	484	354	433	561	541	550	559	549	552	---	---	592
15	501	430	448	539	210	383	571	559	561	---	---	567
16	490	452	469	496	442	475	565	555	559	---	---	567
17	505	282	461	525	496	510	581	549	567	---	---	574
18	426	242	370	---	---	540	571	563	566	---	---	578
19	358	178	246	---	---	546	583	555	565	---	---	560
20	328	274	305	---	---	549	583	571	576	---	---	572
21	376	330	355	---	---	550	591	573	582	---	---	584
22	374	348	367	---	---	553	603	585	594	---	---	588
23	384	342	365	---	---	556	597	571	585	---	---	593
24	412	376	395	---	---	558	591	561	576	---	---	599
25	458	402	421	---	---	480	589	567	579	---	---	603
26	458	422	433	531	246	439	595	569	582	---	---	607
27	436	420	430	460	336	432	591	577	586	---	---	612
28	456	438	445	511	462	493	603	577	590	---	---	610
29	557	408	444	527	511	519	599	565	581	619	595	609
30	438	368	410	535	354	510	599	571	584	611	555	600
31	468	438	456	---	---	---	613	581	598	627	597	608
MONTH	557	178	413	561	210	508	629	398	548	653	549	587

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	645	599	618	575	553	566	565	519	542	400	278	362
2	657	595	616	577	559	566	589	563	579	392	368	376
3	---	---	415	591	573	583	593	270	524	436	394	417
4	---	---	390	639	579	598	478	212	424	448	434	442
5	---	---	375	603	573	588	374	296	355	472	442	459
6	---	---	360	587	573	580	418	374	394	490	470	476
7	436	374	392	599	581	592	438	420	429	505	478	494
8	412	376	392	627	595	611	480	424	451	547	150	461
9	426	364	404	667	627	644	505	472	491	392	102	328
10	444	370	410	701	627	677	480	462	467	308	160	236
11	460	446	454	651	615	630	517	450	476	358	308	327
12	529	460	494	641	581	614	460	442	450	498	362	425
13	569	501	545	613	416	576	460	444	451	567	478	503
14	597	561	573	561	426	532	549	454	469	563	494	520
15	595	573	585	569	553	561	501	464	485	577	484	523
16	565	545	551	555	537	547	509	490	499	545	468	507
17	599	557	582	555	545	550	569	488	509	607	194	341
18	613	589	603	555	334	446	527	507	518	378	316	346
19	647	569	608	517	466	498	537	106	372	430	380	409
20	583	535	560	541	511	526	376	280	349	456	406	430
21	589	539	552	557	541	549	376	360	368	507	438	459
22	569	537	555	571	553	562	450	364	401	525	448	479
23	619	525	546	575	539	560	450	430	438	547	476	496
24	555	490	533	557	517	539	482	412	423	492	370	443
25	585	523	543	549	519	532	458	420	446	511	416	450
26	577	541	562	555	511	535	482	460	475	517	486	495
27	645	563	596	541	505	525	488	318	423	529	505	522
28	617	561	589	547	488	520	458	406	437	541	416	482
29	---	---	---	555	498	522	474	458	463	408	208	309
30	---	---	---	531	490	514	490	122	440	392	182	293
31	---	---	---	529	492	517	---	---	---	402	290	371
MONTH	657	364	514	701	334	560	593	106	452	607	102	425

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	382	422	400	405	559	511	536	533	236	350
2	---	---	389	509	422	479	577	547	563	322	140	269
3	368	---	382	509	354	473	625	114	457	342	290	322
4	416	376	401	470	434	447	386	208	311	382	212	345
5	503	336	387	470	422	452	432	378	408	348	182	305
6	452	374	396	476	442	460	448	420	436	330	228	293
7	432	412	418	476	432	451	509	420	450	368	308	339
8	440	272	392	452	422	438	470	430	445	378	338	364
9	398	260	368	446	422	432	456	422	439	414	374	397
10	416	396	406	440	428	432	687	300	420	432	402	417
11	410	358	381	446	430	438	380	334	350	444	338	411
12	420	392	404	458	442	447	384	370	377	336	300	321
13	424	404	409	454	436	443	476	384	439	396	322	356
14	410	402	405	458	432	447	474	434	449	442	400	431
15	404	290	384	444	432	437	519	478	490	474	432	450
16	404	350	387	462	436	452	519	496	506	478	458	467
17	392	326	374	498	456	474	527	513	518	496	468	476
18	392	344	379	---	---	470	531	511	522	498	478	487
19	404	386	392	---	---	468	541	523	530	---	---	509
20	398	390	393	---	---	467	537	517	525	---	---	525
21	394	386	389	---	---	466	541	531	535	486	482	475
22	390	384	387	665	364	465	---	---	534	476	458	466
23	386	374	383	498	470	489	---	---	532	490	458	470
24	388	358	382	575	498	524	---	---	532	---	---	495
25	384	368	380	521	507	512	---	---	530	---	---	509
26	390	380	384	547	513	534	---	---	529	---	---	510
27	398	388	395	531	503	519	---	---	528	---	---	527
28	408	396	401	537	466	493	---	---	526	590	526	544
29	412	402	407	537	460	479	539	521	529	544	496	476
30	408	402	406	496	466	486	533	498	519	504	470	489
31	---	---	---	547	484	506	533	492	518	---	---	---
MONTH	503	260	391	665	354	467	687	114	483	590	140	427

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.70	7.60	7.70	8.00	7.70	7.80	8.10	7.80	8.00	8.60	8.00	8.30
2	7.70	7.60	7.60	7.90	7.70	7.80	8.10	8.00	8.10	8.50	7.80	8.20
3	7.80	7.60	7.70	8.60	7.80	8.10	8.00	7.90	8.00	8.50	7.90	8.30
4	8.00	7.60	7.70	8.00	7.80	7.90	8.10	7.60	7.90	8.60	7.90	8.30
5	8.10	7.70	7.80	8.10	7.80	7.90	8.10	7.60	8.00	8.50	8.10	8.30
6	8.30	7.70	7.90	8.20	7.80	8.00	8.10	7.90	8.00	8.60	8.10	8.40
7	8.40	7.70	8.00	8.20	7.90	8.00	8.20	7.90	8.00	8.50	8.00	8.30
8	8.40	7.70	7.90	8.20	7.80	8.00	8.30	7.90	8.10	---	---	---
9	8.40	7.60	7.90	8.30	7.80	8.00	8.40	7.80	8.10	---	---	---
10	8.00	7.60	7.70	8.40	7.80	8.00	8.00	7.80	7.90	---	---	---
11	7.80	7.50	7.70	8.20	7.80	8.00	8.10	7.90	8.10	---	---	---
12	8.10	7.60	7.80	8.30	7.80	8.00	8.10	8.00	8.10	---	---	---
13	8.10	7.50	7.80	8.30	7.70	7.90	8.30	7.90	8.10	---	---	---
14	7.90	7.50	7.60	8.30	7.70	7.90	8.20	8.20	8.20	---	---	---
15	8.10	7.50	7.80	8.60	7.70	8.00	8.20	7.70	8.10	---	---	---
16	8.20	7.60	7.80	8.00	7.90	8.00	8.10	8.00	8.10	---	---	---
17	7.90	7.50	7.70	8.00	7.80	7.90	8.10	8.00	8.10	---	---	---
18	8.40	7.70	7.90	7.80	7.70	7.80	8.20	8.00	8.10	---	---	---
19	7.90	7.70	7.70	---	---	---	8.20	8.00	8.10	---	---	---
20	7.70	7.60	7.60	---	---	---	8.30	8.00	8.10	---	---	---
21	7.60	7.60	7.60	---	---	---	8.20	8.00	8.10	---	---	---
22	7.60	7.60	7.60	---	---	---	8.30	7.90	8.10	---	---	---
23	7.70	7.60	7.60	---	---	---	8.40	7.90	8.10	---	---	---
24	7.80	7.60	7.60	---	---	---	8.50	7.90	8.20	---	---	---
25	7.90	7.50	7.60	---	---	---	8.50	8.00	8.30	---	---	---
26	7.90	7.60	7.70	7.90	7.70	7.80	8.40	8.10	8.30	---	---	---
27	8.00	7.60	7.70	8.00	7.80	7.90	8.40	8.00	8.20	---	---	---
28	8.20	7.60	7.80	8.00	7.90	8.00	8.50	8.00	8.30	---	---	---
29	8.20	7.60	7.70	8.00	7.90	8.00	8.60	8.00	8.30	8.50	7.80	8.10
30	8.00	7.60	7.80	8.00	7.80	7.90	8.60	7.90	8.30	8.50	7.80	8.00
31	8.00	7.80	7.80	---	---	---	8.50	7.90	8.30	8.50	7.70	8.10
MONTH	8.40	7.50	7.74	8.60	7.70	7.94	8.60	7.60	8.12	8.60	7.70	8.23

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	8.40	7.70	8.00	8.50	8.00	8.20	8.40	7.60	8.00	7.90	7.70	7.80
2	8.50	7.60	7.90	8.50	7.90	8.20	8.50	7.50	8.00	7.80	7.60	7.70
3	---	---	---	8.40	7.80	8.10	8.20	7.60	7.90	8.00	7.60	7.80
4	---	---	---	8.40	7.80	8.10	7.90	7.70	7.70	8.30	7.60	7.90
5	---	---	---	8.40	7.90	8.10	7.80	7.50	7.50	8.30	7.70	7.90
6	---	---	---	8.50	7.90	8.10	7.70	7.50	7.60	8.40	7.70	8.00
7	7.80	7.70	7.80	8.40	7.80	8.10	7.80	7.50	7.60	8.10	7.60	7.80
8	8.00	7.80	7.90	8.30	7.80	8.10	7.90	7.50	7.70	8.20	7.60	7.80
9	7.90	7.90	7.90	8.50	7.90	8.20	8.10	7.70	7.90	8.30	7.70	7.80
10	8.00	7.90	7.90	8.40	7.80	8.10	8.30	7.70	7.80	8.10	7.70	7.80
11	8.00	7.90	8.00	8.20	7.70	7.90	7.80	7.50	7.70	7.70	7.70	7.70
12	8.00	7.90	7.90	8.50	7.70	8.00	8.00	7.60	7.70	7.80	7.70	7.70
13	8.00	7.90	8.00	8.40	7.80	8.10	8.20	7.70	7.90	8.10	7.60	7.80
14	8.10	7.90	8.00	8.30	7.80	8.00	8.30	7.50	8.00	8.40	7.70	8.00
15	8.00	7.90	7.90	8.40	7.80	8.10	8.40	7.80	8.10	8.40	7.70	8.00
16	8.10	7.90	8.00	8.40	7.80	8.00	8.40	7.80	8.10	8.40	7.70	8.00
17	8.20	7.80	7.90	8.30	7.80	8.10	8.20	7.60	7.90	8.20	7.50	7.90
18	8.30	7.80	8.00	8.00	7.80	7.90	8.20	7.70	7.90	7.80	7.80	7.80
19	8.20	7.70	8.00	8.20	7.90	8.10	8.40	7.70	7.80	7.80	7.70	7.70
20	8.30	7.70	8.00	8.30	7.90	8.10	8.10	7.80	8.00	7.70	7.60	7.70
21	8.40	7.90	8.20	8.30	7.90	8.10	7.80	7.70	7.80	7.90	7.60	7.70
22	8.50	7.90	8.20	8.40	7.90	8.10	7.70	7.60	7.70	8.10	7.60	7.80
23	8.50	7.90	8.20	8.50	7.90	8.20	7.80	7.60	7.70	8.30	7.60	7.80
24	8.60	7.90	8.20	8.60	7.80	8.20	8.20	7.60	7.70	7.90	7.10	7.60
25	8.50	7.80	8.10	8.70	7.80	8.30	7.90	7.60	7.70	7.70	7.60	7.60
26	8.60	7.70	8.10	8.70	7.80	8.20	8.10	7.70	7.90	8.10	7.40	7.60
27	8.50	7.70	8.10	8.60	7.70	8.10	7.90	7.50	7.70	8.30	7.50	7.80
28	8.60	7.90	8.20	8.70	7.60	8.10	8.50	7.80	8.10	8.20	7.50	7.80
29	---	---	---	8.70	7.60	8.10	8.50	7.80	8.10	7.80	7.50	7.70
30	---	---	---	8.60	7.60	8.10	8.80	7.70	8.00	7.80	7.70	7.80
31	---	---	---	8.60	7.60	8.10	---	---	---	7.90	7.70	7.80
MONTH	8.60	7.60	8.02	8.70	7.60	8.10	8.80	7.50	7.84	8.40	7.10	7.79

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	8.10	7.90	8.00	8.10	7.40	7.70	7.90	7.50	7.70
2	---	---	---	8.10	7.70	7.90	7.90	7.40	7.60	7.90	7.50	7.60
3	7.80	7.60	7.70	8.10	7.40	7.80	8.70	7.40	7.70	7.50	7.40	7.50
4	7.90	7.80	7.90	8.50	7.70	8.00	7.60	7.30	7.40	7.80	7.40	7.50
5	7.90	7.80	7.90	8.50	7.80	8.10	7.70	7.30	7.40	7.90	7.40	7.60
6	7.90	7.80	7.90	8.40	7.90	8.10	8.20	7.30	7.70	7.70	7.50	7.60
7	8.10	7.90	8.00	8.30	7.80	8.10	8.30	7.40	7.80	7.80	7.50	7.60
8	8.00	7.70	7.90	8.30	7.60	7.90	8.30	7.40	7.80	7.70	7.30	7.60
9	7.90	7.70	7.80	8.30	7.60	8.00	8.30	7.50	7.80	7.80	7.50	7.60
10	7.90	7.80	7.90	8.30	7.60	8.00	8.10	7.00	7.60	7.90	7.50	7.70
11	8.00	7.80	7.90	8.30	7.70	8.00	7.90	7.30	7.50	8.00	7.50	7.70
12	8.00	7.90	8.00	8.30	7.80	8.00	8.30	7.30	7.70	8.50	7.80	8.10
13	8.00	7.90	8.00	8.40	7.70	8.00	8.30	7.30	7.70	8.40	7.60	8.00
14	8.00	7.90	7.90	8.30	7.70	8.00	8.20	7.30	7.80	8.20	7.60	7.80
15	8.00	7.80	7.90	8.30	7.70	8.00	8.20	7.40	7.80	8.20	7.60	7.80
16	8.00	7.90	7.90	8.30	7.70	8.00	8.00	7.40	7.70	8.10	7.50	7.80
17	7.90	7.80	7.90	8.30	7.70	8.00	7.90	7.40	7.60	8.00	7.50	7.70
18	7.90	7.70	7.90	---	---	---	7.90	7.30	7.50	8.00	7.50	7.70
19	8.00	7.70	7.90	---	---	---	8.00	7.30	7.60	7.90	7.60	7.70
20	8.00	7.90	7.90	---	---	---	8.10	7.50	7.70	7.90	7.60	7.80
21	8.00	7.90	7.90	---	---	---	7.70	7.30	7.50	8.00	7.60	7.80
22	8.00	7.90	7.90	7.90	7.30	7.70	---	---	---	8.00	7.60	7.80
23	8.00	7.90	8.00	8.00	7.40	7.70	---	---	---	8.00	7.60	7.80
24	8.00	7.90	7.90	8.20	7.40	7.70	---	---	---	8.10	7.60	7.80
25	8.00	7.80	7.90	8.10	7.50	7.70	---	---	---	8.00	7.70	7.80
26	8.00	7.90	7.90	8.00	7.50	7.70	---	---	---	8.00	7.70	7.80
27	8.10	7.90	8.00	8.10	7.40	7.70	---	---	---	8.10	7.60	7.80
28	8.10	7.90	8.00	8.10	7.40	7.70	---	---	---	8.00	7.60	7.70
29	8.10	7.90	8.00	8.20	7.40	7.70	7.90	7.60	7.80	8.40	7.10	7.80
30	8.10	7.90	8.00	8.10	7.40	7.70	7.90	7.50	7.70	8.20	7.60	7.90
31	---	---	---	8.00	7.30	7.60	7.80	7.60	7.70	---	---	---
MONTH	8.10	7.60	7.92	8.50	7.30	7.88	8.70	7.00	7.66	8.50	7.10	7.74

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	20.0	15.0	17.5	16.0	14.0	15.0	13.5	7.5	10.0	10.5	7.0	9.0
2	---	---	---	17.0	14.5	15.5	8.0	4.5	6.5	12.5	8.0	10.0
3	23.5	17.5	21.5	18.5	13.5	16.0	8.5	5.5	7.5	12.0	7.5	10.0
4	22.5	19.0	20.5	19.0	13.5	16.5	13.5	8.5	11.0	12.5	9.0	10.5
5	21.5	16.0	19.0	19.5	14.0	17.0	13.0	9.0	11.0	10.0	6.5	8.5
6	21.5	16.0	19.0	19.0	14.5	17.0	12.5	8.0	10.5	11.0	7.0	9.0
7	23.0	16.5	20.0	17.5	13.5	16.0	14.0	9.5	12.0	9.0	6.0	8.0
8	22.5	20.0	21.0	18.0	13.0	16.0	14.5	9.5	12.0	---	---	---
9	25.0	21.5	23.0	21.0	17.5	19.5	18.0	13.0	15.5	---	---	---
10	23.0	21.0	22.0	21.0	17.0	19.5	17.5	10.5	14.5	---	---	---
11	24.0	19.5	21.5	16.5	14.5	15.0	10.0	7.5	9.0	---	---	---
12	26.5	21.5	24.0	20.0	14.5	17.0	7.5	6.0	6.5	---	---	---
13	26.5	22.5	24.5	22.0	19.5	20.5	7.5	4.0	5.5	---	---	---
14	25.5	22.5	24.0	23.0	20.0	21.5	7.5	2.5	5.0	---	---	---
15	23.0	20.0	21.5	21.0	14.0	16.5	9.5	4.0	6.5	---	---	---
16	23.0	18.5	21.0	17.5	14.0	16.0	9.5	5.0	7.5	---	---	---
17	22.5	21.0	21.5	19.0	16.0	17.0	10.0	5.5	8.0	---	---	---
18	23.0	22.0	22.5	22.5	19.0	21.0	9.0	6.0	7.5	---	---	---
19	22.5	21.5	22.0	---	---	---	8.5	4.5	6.5	---	---	---
20	23.0	20.5	21.5	---	---	---	8.5	5.0	7.0	---	---	---
21	22.0	20.5	21.5	---	---	---	10.5	4.5	7.5	---	---	---
22	24.0	20.5	22.0	---	---	---	13.0	7.0	10.0	---	---	---
23	26.0	21.5	23.5	---	---	---	12.5	7.5	10.5	---	---	---
24	27.0	22.0	24.5	---	---	---	11.5	8.0	10.0	---	---	---
25	26.5	23.0	24.5	---	---	---	8.0	5.0	6.0	---	---	---
26	25.0	22.0	23.5	20.5	17.5	19.0	9.5	3.0	6.0	---	---	---
27	23.0	20.0	21.5	17.0	13.0	15.0	9.0	6.5	7.5	---	---	---
28	20.5	18.5	19.0	13.0	11.0	12.0	10.0	5.0	7.5	---	---	---
29	18.5	17.0	17.5	11.5	10.0	11.0	11.0	5.5	8.5	14.0	9.5	12.0
30	17.5	16.0	16.5	15.5	11.5	13.5	14.0	7.5	10.5	14.5	8.5	12.0
31	18.5	14.0	16.5	---	---	---	12.0	9.0	10.5	17.0	12.0	14.5
MONTH	27.0	14.0	21.5	23.0	10.0	16.5	18.0	2.5	9.0	17.0	6.0	10.5

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	18.0	14.5	16.5	16.5	9.0	13.0	23.0	19.0	21.0	23.0	21.5	22.0
2	19.0	17.0	18.0	19.5	11.5	15.5	23.5	20.0	21.5	26.5	20.5	23.0
3	18.5	16.5	17.5	17.5	13.5	15.5	21.0	19.0	20.0	27.0	20.5	23.5
4	20.5	16.5	18.5	19.0	11.5	15.0	25.0	20.5	22.0	28.0	20.0	23.5
5	---	---	---	20.0	12.5	16.5	27.0	22.0	24.5	24.0	21.5	23.0
6	---	---	---	20.0	13.0	17.0	28.5	23.5	25.5	29.0	22.0	25.0
7	14.5	12.5	13.0	19.0	13.5	16.5	30.0	23.0	26.5	25.5	23.0	24.0
8	12.0	9.5	10.5	21.5	14.0	18.0	27.5	22.0	25.0	27.0	21.5	23.5
9	9.0	8.0	8.5	23.5	17.5	20.0	22.0	18.0	20.5	25.5	21.0	23.0
10	8.0	5.5	7.0	22.5	17.5	20.5	20.5	18.0	19.0	23.5	20.5	22.0
11	9.0	4.0	6.0	20.0	17.0	18.5	19.5	17.5	18.5	27.0	21.5	24.0
12	7.5	5.5	6.5	22.0	15.5	19.0	24.0	19.5	21.5	30.0	23.5	26.5
13	7.5	5.0	6.0	19.0	15.5	17.5	25.5	18.5	22.0	30.0	24.5	27.0
14	12.5	7.5	9.5	21.0	14.5	17.5	23.5	19.5	21.5	27.0	24.0	25.5
15	13.5	6.5	10.5	22.0	16.0	19.0	24.0	16.0	20.0	27.0	23.0	25.0
16	18.5	11.5	14.5	20.5	15.5	18.0	25.0	16.5	21.0	26.5	23.5	25.0
17	18.5	12.5	15.5	19.5	15.5	17.5	21.0	18.0	19.5	25.5	20.5	22.0
18	19.5	13.0	16.5	20.0	16.5	18.0	24.0	18.5	21.0	21.0	19.5	20.5
19	20.5	14.5	17.5	19.0	13.5	16.0	22.0	17.5	19.5	25.0	18.5	23.0
20	20.5	14.5	17.5	19.0	12.0	15.0	24.5	18.0	21.5	27.5	19.5	23.0
21	13.5	9.0	11.5	20.0	11.5	15.5	24.0	19.5	21.5	28.0	21.5	24.5
22	15.5	8.5	12.0	20.5	12.5	16.5	25.0	18.5	21.5	28.5	21.5	25.0
23	18.0	10.0	14.0	22.0	13.5	17.5	25.5	18.5	21.5	30.0	23.0	26.5
24	19.0	12.5	16.0	22.5	14.5	18.5	27.0	19.0	23.0	28.0	22.0	25.5
25	21.0	13.0	17.5	21.5	15.0	18.5	27.5	20.0	24.0	28.0	21.0	23.5
26	22.0	15.5	19.0	23.0	16.0	19.5	28.0	21.5	24.5	30.0	23.0	25.5
27	19.0	14.0	16.5	24.0	17.5	21.0	24.5	20.5	23.0	29.0	24.5	26.0
28	14.5	10.0	12.5	25.5	18.0	22.0	27.5	19.5	23.5	27.0	24.5	25.5
29	---	---	---	24.5	18.5	21.5	26.5	22.0	24.0	26.0	24.0	24.5
30	---	---	---	25.0	18.0	21.5	27.0	21.0	23.5	25.0	22.5	23.5
31	---	---	---	25.5	18.5	22.0	---	---	---	25.0	23.5	24.5
MONTH	22.0	4.0	13.5	25.5	9.0	18.0	30.0	16.0	22.0	30.0	18.5	24.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	29.0	26.0	27.5	36.0	31.5	33.5	25.0	23.5	24.0
2	---	---	---	31.0	27.0	29.0	34.0	30.5	32.5	26.0	24.0	25.0
3	25.0	23.5	24.5	31.0	26.5	29.0	33.0	26.0	29.5	29.5	24.5	27.0
4	26.5	24.5	25.5	32.5	27.0	29.5	30.0	26.5	28.0	30.0	26.0	27.5
5	26.0	24.5	25.5	32.5	27.0	29.5	32.5	27.5	30.0	29.0	25.0	27.0
6	26.5	25.5	26.0	31.5	26.5	29.0	32.5	28.0	30.5	27.0	25.5	26.0
7	28.0	26.0	27.0	33.5	27.0	31.0	32.5	28.5	30.5	26.0	25.0	25.5
8	29.0	25.0	27.0	33.5	28.0	30.5	32.5	29.5	31.0	28.0	23.0	25.5
9	27.0	24.5	26.0	34.0	28.0	31.0	34.0	29.5	31.5	29.5	25.5	27.5
10	28.0	26.0	27.0	33.0	27.5	30.5	31.5	28.5	30.0	29.5	26.0	28.0
11	27.5	25.5	26.5	32.5	27.0	29.5	32.5	28.0	30.0	30.5	26.5	28.5
12	29.0	26.5	27.5	33.0	27.0	29.5	33.0	28.5	31.0	30.0	25.5	27.5
13	28.5	27.0	27.5	31.0	26.5	28.5	33.5	28.5	31.0	30.0	25.0	27.5
14	28.0	26.5	27.0	33.0	27.0	29.5	32.5	28.0	30.5	29.5	26.0	28.0
15	27.5	25.0	26.5	33.5	27.5	30.0	33.0	29.0	31.0	31.0	26.0	28.5
16	27.5	26.0	26.5	32.5	27.0	29.5	34.0	29.5	31.5	31.5	27.5	29.5
17	27.0	24.5	26.0	32.0	26.5	29.5	35.0	30.0	32.5	31.5	27.5	29.5
18	27.5	25.5	26.5	---	---	---	36.0	31.5	33.5	31.5	27.5	29.5
19	27.5	25.5	27.0	---	---	---	35.5	32.0	33.5	31.0	27.5	29.0
20	28.0	26.5	27.5	---	---	---	34.5	31.0	32.5	30.0	26.5	28.5
21	28.5	26.5	27.5	---	---	---	32.0	30.0	31.0	30.0	26.5	28.5
22	28.5	27.0	28.0	33.0	28.0	30.5	32.5	28.5	30.5	30.0	26.5	28.0
23	28.5	27.0	28.0	35.0	29.0	31.5	---	---	---	31.0	27.0	29.0
24	29.0	27.0	28.0	35.0	29.5	32.0	34.0	25.5	---	30.5	27.0	28.5
25	29.0	27.0	28.0	34.5	29.5	32.5	---	---	---	29.0	26.5	27.5
26	29.0	27.5	28.0	35.0	30.5	33.0	---	---	---	30.0	26.5	28.0
27	31.0	28.0	29.0	35.5	30.0	33.0	---	---	---	31.0	26.5	28.5
28	31.5	28.0	29.5	35.5	29.5	32.5	---	---	---	31.0	27.0	28.5
29	32.0	27.5	29.5	36.0	29.5	32.5	29.0	25.5	27.5	29.5	27.0	28.0
30	30.5	27.0	28.5	35.5	29.5	32.5	29.0	25.5	27.0	28.0	25.5	27.0
31	---	---	---	35.5	30.0	33.0	27.0	25.0	25.5	---	---	---
MONTH	32.0	23.5	27.0	36.0	26.0	30.5	36.0	25.0	30.5	31.5	23.0	27.5

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.6	6.0	7.0	8.7	7.5	8.0	10.7	7.7	9.7	17.6	9.4	13.3
2	7.5	7.1	7.2	9.6	7.6	8.5	11.4	10.3	10.9	17.0	9.0	13.2
3	9.1	6.8	8.0	10.5	8.1	9.0	11.1	10.0	10.7	16.7	9.3	13.2
4	10.0	5.9	7.6	10.8	8.1	9.1	11.1	9.6	10.2	16.2	8.6	12.2
5	11.8	6.8	8.9	11.6	8.0	9.3	11.7	9.3	10.2	16.2	9.7	12.7
6	13.5	7.2	9.8	12.0	7.8	9.3	12.1	9.4	10.4	16.0	10.6	12.8
7	14.1	6.8	9.8	12.4	8.1	9.8	12.4	8.8	10.2	15.3	9.8	12.1
8	13.0	6.2	8.6	12.3	7.9	9.6	13.6	8.7	10.8	---	---	---
9	12.1	5.8	8.2	12.3	6.9	9.1	13.6	8.3	10.2	---	---	---
10	9.3	5.5	6.9	12.6	6.5	9.2	8.7	7.1	7.8	---	---	---
11	7.4	4.9	6.2	11.6	7.4	9.4	10.3	8.7	9.8	---	---	---
12	9.6	6.0	7.3	12.9	7.5	9.5	10.7	9.9	10.3	---	---	---
13	10.1	5.6	7.4	12.1	6.2	8.5	12.0	10.4	11.1	---	---	---
14	8.0	5.5	6.2	12.0	6.0	8.4	12.4	11.3	11.8	---	---	---
15	10.0	5.4	7.2	8.4	4.8	7.6	12.4	10.8	11.5	---	---	---
16	11.7	6.4	8.6	8.6	7.5	8.0	12.4	10.7	11.4	---	---	---
17	9.2	5.3	6.8	8.6	7.4	7.9	12.7	10.6	11.6	---	---	---
18	7.2	6.4	6.7	8.4	5.8	6.7	13.5	10.5	11.8	---	---	---
19	7.5	6.3	7.1	---	---	---	13.4	10.6	11.9	---	---	---
20	7.1	6.8	7.0	---	---	---	13.8	10.5	12.1	---	---	---
21	7.1	6.7	6.9	---	---	---	14.7	10.6	12.4	---	---	---
22	7.2	6.8	6.9	---	---	---	15.3	9.8	12.2	---	---	---
23	7.4	6.5	6.9	---	---	---	16.2	9.3	12.4	---	---	---
24	7.8	6.4	7.0	---	5.3	5.7	16.6	9.3	12.7	---	---	---
25	8.5	6.4	7.2	---	---	---	17.1	9.9	13.4	---	---	---
26	9.3	6.6	7.5	8.5	6.1	7.4	16.8	11.3	13.9	---	---	---
27	10.1	6.4	7.9	8.6	7.2	8.2	15.6	10.2	12.9	---	5.1	6.3
28	10.1	6.8	8.0	9.9	8.4	9.2	18.0	10.2	13.9	17.1	5.5	10.9
29	7.8	6.5	7.2	10.2	9.1	9.6	18.7	10.2	14.2	16.8	8.5	12.1
30	9.6	6.7	8.1	9.8	7.7	9.0	17.3	9.9	13.3	16.9	8.6	12.2
31	10.3	7.9	8.8	---	---	---	16.3	8.9	12.7	15.1	7.7	10.8
MONTH	14.1	4.9	7.6	12.9	4.8	8.6	18.7	7.1	11.6	17.6	5.1	11.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	14.1	6.7	9.9	15.7	8.8	11.6	12.2	5.4	8.4	10.1	6.6	7.1
2	12.8	6.1	8.8	19.6	8.3	12.1	11.0	3.2	6.9	7.7	6.3	6.9
3	---	---	---	13.8	7.2	10.2	9.2	4.3	6.2	9.0	6.0	7.2
4	---	---	---	15.2	8.5	11.3	8.1	5.4	7.0	14.9	6.4	9.1
5	---	---	---	15.0	7.8	10.9	6.2	5.1	5.6	17.8	12.0	14.4
6	---	---	---	16.1	7.4	11.1	6.6	4.7	5.5	17.6	15.9	16.7
7	9.5	8.2	8.8	15.1	7.4	11.0	7.4	4.8	5.8	17.3	16.0	16.5
8	10.4	8.9	9.9	---	---	---	10.7	4.5	7.1	16.8	6.4	14.3
9	11.0	10.2	10.7	---	---	---	10.5	5.8	8.0	7.8	6.4	6.9
10	11.7	10.8	11.3	---	---	---	11.5	6.4	8.2	7.8	6.9	7.2
11	12.4	11.6	12.0	11.5	6.4	8.3	7.8	4.4	6.3	7.1	6.6	6.9
12	12.2	11.7	12.0	14.3	5.8	9.3	9.9	4.6	7.0	7.0	5.2	6.5
13	12.4	11.7	12.0	12.9	5.7	8.9	10.7	6.0	7.9	9.0	4.9	6.4
14	11.9	10.7	11.4	11.2	7.0	8.7	---	---	---	14.3	6.2	10.4
15	11.8	10.5	11.0	12.4	7.0	9.1	---	---	---	14.8	7.1	10.3
16	11.8	10.1	10.8	12.8	6.5	8.9	---	---	---	14.6	4.4	8.3
17	13.3	9.5	11.0	11.5	6.6	8.6	---	---	---	14.6	5.5	8.6
18	15.6	9.3	11.7	8.9	6.9	7.9	---	---	---	7.6	7.4	7.5
19	14.7	8.1	10.9	10.6	7.6	8.9	---	---	---	7.8	7.0	7.5
20	15.1	7.1	10.3	11.4	7.9	9.5	7.5	4.6	6.4	7.6	6.6	7.0
21	15.4	8.7	11.5	12.9	7.5	9.9	7.5	6.8	7.3	7.9	6.0	6.7
22	16.9	9.0	12.5	14.2	7.7	10.4	8.1	6.9	7.6	---	---	---
23	16.8	9.1	12.4	15.9	8.0	11.2	---	---	---	---	---	---
24	18.4	8.5	12.8	16.9	7.5	11.5	---	---	---	---	---	---
25	17.6	8.3	12.3	16.6	7.4	11.5	---	---	---	6.9	5.9	6.3
26	18.8	7.1	11.8	18.6	7.1	11.9	---	---	---	10.1	3.4	6.0
27	15.4	7.0	10.4	17.8	6.6	11.7	---	---	---	12.3	3.7	7.3
28	15.5	8.5	11.5	18.5	6.2	11.6	13.4	7.3	9.8	11.5	5.1	7.4
29	---	---	---	16.9	5.9	10.9	16.0	7.0	8.8	7.0	5.5	6.6
30	---	---	---	18.2	5.8	10.9	14.6	6.4	9.8	7.6	7.0	7.3
31	---	---	---	16.1	5.6	10.3	---	---	---	7.4	6.9	7.1
MONTH	18.8	6.1	11.2	19.6	5.6	10.3	16.0	3.2	7.4	17.8	3.4	8.6

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	8.1	6.9	7.4	11.5	5.7	8.7	9.2	6.3	7.6
2	---	---	---	16.3	5.8	9.7	9.8	6.4	7.9	7.8	6.5	7.2
3	7.3	7.0	7.1	16.6	5.4	11.6	8.6	6.3	7.3	6.8	6.1	6.5
4	7.2	6.9	7.1	15.2	5.6	8.7	6.2	5.5	5.7	7.0	5.3	6.1
5	7.2	6.4	7.0	16.6	6.2	9.9	8.4	5.3	6.6	8.2	5.8	6.8
6	7.2	6.4	7.0	17.1	6.2	10.0	11.4	5.6	8.0	7.5	6.4	6.8
7	7.4	6.8	7.1	15.9	6.2	11.6	12.3	6.1	9.1	7.7	6.0	7.0
8	7.3	6.7	7.0	15.6	5.8	9.3	12.4	6.4	9.5	7.6	6.2	7.0
9	7.4	6.8	7.2	14.2	5.6	8.5	12.1	7.2	9.7	8.1	6.0	6.9
10	7.3	6.9	7.1	10.2	5.4	7.5	9.7	2.5	7.2	8.7	6.1	7.0
11	7.3	6.6	7.0	9.9	5.5	7.4	8.5	5.1	6.5	8.9	5.7	7.1
12	7.5	6.7	7.1	12.0	5.6	7.6	11.4	5.2	7.8	10.0	5.8	7.5
13	7.6	6.6	7.1	10.6	5.6	7.8	13.0	5.2	8.9	10.4	5.9	7.7
14	7.8	6.9	7.3	14.5	5.5	8.3	12.2	5.1	8.6	9.6	5.5	7.2
15	7.6	6.5	7.1	10.7	5.3	7.5	11.8	5.2	8.3	9.7	5.4	7.3
16	7.9	7.0	7.3	---	---	---	10.3	5.5	8.0	9.4	5.4	7.2
17	8.1	7.2	7.7	---	---	---	10.3	6.3	8.3	8.8	5.1	7.0
18	7.9	7.0	7.6	---	---	---	10.1	6.4	8.1	9.3	5.4	7.2
19	7.7	6.6	7.4	---	---	---	10.7	6.6	8.4	8.6	6.1	7.5
20	7.8	7.1	7.5	---	---	---	10.3	7.6	8.6	8.8	5.5	7.3
21	7.9	7.2	7.5	---	---	---	9.0	5.3	7.3	9.7	5.5	7.7
22	7.8	7.1	7.5	8.5	3.2	6.5	10.0	1.9	8.3	9.6	5.4	7.7
23	7.9	7.1	7.5	10.4	4.9	7.2	4.6	2.0	2.6	9.8	6.7	8.1
24	7.8	7.1	7.4	12.9	5.2	8.3	8.9	5.3	7.9	9.8	6.7	8.0
25	7.8	7.0	7.3	12.0	5.5	8.6	9.6	8.7	9.2	8.9	6.3	7.5
26	7.8	7.1	7.4	11.5	5.9	8.7	---	---	---	9.5	6.6	7.9
27	8.0	6.8	7.4	11.9	4.7	8.0	---	---	---	9.8	6.3	7.8
28	7.8	6.8	7.2	11.0	4.6	7.6	---	---	---	10.2	6.6	7.8
29	8.0	6.6	7.2	12.5	4.9	8.3	10.8	8.5	9.9	10.1	.0	6.2
30	8.0	6.7	7.3	11.9	4.6	8.1	11.6	5.1	9.0	10.6	5.0	7.2
31	---	---	---	10.8	4.5	7.8	10.8	7.7	9.1	---	---	---
MONTH	8.1	6.4	7.3	17.1	3.2	8.5	13.0	1.9	8.0	10.6	.0	7.3

08048980 VILLAGE CREEK AT KENNEDALE, TX

LOCATION.--Lat 32°38'18", long 97°14'31", Tarrant County, Hydrologic Unit 12030102, at center of channel on downstream side of bridge on Everman-Kennedale Road, 1.5 mi downstream from Elm Branch, and 3.0 mi upstream from bridge on Interstate Highway 20.

DRAINAGE AREA.--100 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July to September 1986.

GAGE.--Water-stage recorder. Datum of gage is 559.96 ft above National Geodetic Vertical Datum of 1929 (Tarrant County benchmark).

REMARKS.--No estimated daily discharges. Records fair. Measured discharges include intrabasin transfers from Cedar Creek Reservoir (station 08063010). Releases enter the channel on the left bank about 50 ft downstream from the gage and cause backwater such that the stage record at the gage is a measure of both the controlled releases and unregulated flow in Village Creek. Water-quality monitor and gage-height telemeter at station.

EXTREME FOR PERIOD OF RECORD.--Maximum discharge, 458 ft³/s Sept. 2, 1986 (gage height, 8.46 ft); minimum daily, 0.08 ft³/s Aug. 20-22, 1986.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1977 reached a stage of 23.5 ft, from high-water mark painted on abutment of bridge at gage.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period July to September, 336 ft³/s Sept. 2 at 1400 hours (gage height, 8.46 ft), from rating curve extended above 116 ft³/s; minimum daily, 0.08 ft³/s Aug. 20-22.

DISCHARGE, IN CUBIC FEET PER SECOND, JULY TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										---	88	127
2										---	63	259
3										---	64	136
4										---	176	104
5										---	132	87
6										---	81	36
7										---	107	34
8										---	70	101
9										---	77	115
10										---	78	110
11										45	104	109
12										56	109	109
13										76	79	108
14										---	64	102
15										---	50	77
16										---	51	92
17										---	51	97
18										---	35	70
19										---	.12	56
20										---	.08	93
21										.18	.08	85
22										.37	.08	81
23										97	48	78
24										76	73	63
25										77	75	51
26										64	76	52
27										19	43	54
28										.16	107	55
29										.12	115	56
30										7.4	71	52
31										45	77	---
TOTAL										---	2164.36	2649
MEAN										---	69.8	88.3
MAX										---	176	259
MIN										---	.08	34
CFSM										---	.70	.88
IN.										---	.81	.99
AC-FT										---	4290	5250

WTR YR 1986 TOTAL - MEAN - MAX - MIN - CFSM - IN. - AC-FT -

08048980 VILLAGE CREEK AT KENNEDALE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: July to September 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
JUL									
25...	0930	201	7.70	28.0	6.7	--	1.2	66	11
SEP									
11...	1300	236	7.70	27.0	7.4	95	1.6	74	17

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
JUL									
25...	20	3.8	14	0.8	4.3	55	21	16	0.2
SEP									
11...	23	4.0	15	0.8	5.2	57	24	17	0.3

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
JUL									
25...	4.6	120	0.28	0.02	0.30	0.06	0.64	0.7	0.06
SEP									
11...	5.5	130	0.25	0.05	0.30	0.08	1.0	1.1	0.08

08049200 LAKE ARLINGTON AT ARLINGTON, TX

LOCATION.--Lat 32°42'58", long 97°11'32", Tarrant County, Hydrolgoic Unit 12030102, in new pumphouse at right end of Arlington Dam on Village Creek near western boundary of Arlington, 1.5 mi upstream from the Texas and Pacific Railway Co. bridge, and 7 mi upstream from mouth.

DRAINAGE AREA.--143 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1957 to current year.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Sept. 9, 1957, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by a rolled earthfill dam 6,482 ft long. The service spillway is a 10-foot diameter uncontrolled circular drop inlet. The spillway is an 882 foot-wide cut through natural ground near the right end of dam. The dam was completed and storage began Mar. 31, 1957. Capacities are based on a 1980 survey. The dam was built by city of Arlington to impound water for municipal and industrial uses. Water is diverted from Cedar Creek Reservoir (station 08063010) into Lake Arlington. Water is pumped from lake to generating plant of Texas Electric Service Co. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam...	572.0	-
Crest of spillway..	559.7	70,140
Crest of drop inlet (top of conservation pool)...........	550.0	45,710
Lowest gated outlet (invert).............................	505.0	180

COOPERATION.--Capacity table provided by Freese and Nichols, Inc., Consulting Engineers, for the city of Arlington.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 60,580 acre-ft May 4, 1979 (elevation, 556.20 ft); minimum since lake first filled in April 1957, 18,110 acre-ft Oct. 17, 1971 (elevation, 534.27 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 45,330 acre-ft June 1 at hours (elevation, 55 2.37 ft); minimum, 20,840 acre-ft Oct. 1 (elevation, 539.44 ft.)

Capacity table (elevation, in feet, and total contents, in acre-feet)

539.0	20,220	544.0	28,030	550.0	39,930
540.0	21,620	546.0	31,750	552.0	44,460
542.0	24,650	548.0	35,720	553.0	46,820

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20930	26440	30070	30050	29570	34310	34590	36530	43420	37220	28760	25410
2	21070	26490	30050	30090	29700	34390	34550	36660	43260	37110	29020	25560
3	21190	26580	30050	30120	30200	34450	34650	36640	42200	36930	29040	25620
4	21210	26660	30050	30110	30390	34430	35190	36660	42970	36760	28890	26040
5	21270	26780	30050	30070	30940	34210	35440	36680	42020	36530	28730	26040
6	21310	26850	30050	30010	31200	33980	35520	36680	41500	36360	28510	26120
7	21340	26960	30050	29970	31350	33800	35600	36760	41270	36160	28230	26150
8	21470	27150	30090	30030	31470	33600	35460	36990	40930	35970	28080	26250
9	21550	27240	30140	30090	31660	33680	34910	38890	40880	35760	28080	26300
10	21610	27270	30330	30010	31850	33720	34830	40970	40700	35460	28050	26280
11	21690	27340	30430	29920	31930	33900	34950	40660	40360	35150	27910	26280
12	21780	27460	30430	29900	32080	34000	35070	40360	40230	34890	27720	26270
13	21910	27560	30370	29920	32350	34120	35190	40090	40130	34670	27480	26250
14	22110	27650	30350	29880	32570	34250	35280	39910	40230	34430	27240	26140
15	22210	28820	30330	29790	32840	34370	35340	39650	40340	34180	26910	26070
16	22300	29070	30330	29770	33020	34450	35240	39480	40110	33880	26630	26040
17	22500	29270	30370	29730	33170	34590	35190	42290	39840	33600	26300	25970
18	23280	29640	30390	29660	33370	34850	35300	41900	39610	33270	25970	25810
19	24900	29750	30430	29620	33540	34930	36070	41220	39350	32840	25660	25620
20	25180	29880	30430	29570	33620	34910	36390	40750	39180	32390	25340	25560
21	25230	29940	30430	29510	33580	34930	36470	40360	39060	32220	25050	25460
22	25330	29940	30350	29380	33700	34910	36550	40070	38990	32040	24830	25310
23	25460	29900	30330	29400	33800	34890	36510	39930	38820	31830	24780	25230
24	25610	29880	30240	29400	33900	34930	36490	41360	38610	31450	24650	25030
25	25710	29840	30120	29370	34000	34850	36450	40880	38380	31180	24480	24820
26	25790	29950	29970	29220	34120	34910	36410	40540	38080	30840	24280	24590
27	25840	29940	29920	29220	34140	34870	36450	40230	37860	30450	24230	24400
28	25970	29920	29940	29350	34210	34770	36410	39950	37550	30050	24060	24230
29	26150	29970	29950	29400	---	34650	36390	39720	37360	29640	23870	24030
30	26230	30110	29970	29480	---	34610	36470	40570	37220	29330	23710	23890
31	26320	---	30010	29510	---	34570	---	44280	---	29040	24290	---
MAX	26320	30110	30430	30120	34210	34930	36550	44280	43420	37220	29040	26300
MIN	20930	26440	29920	29220	29570	33600	34550	36530	37220	29040	23710	23890
(†)	543.01	545.13	545.08	544.81	547.25	547.43	548.36	551.92	548.72	544.55	541.77	541.51
(‡)	+740	+3790	-100	-500	+4700	+360	+1900	+7810	-7060	-8180	-4750	-400

CAL YR 1985 MAX 55920 MIN 20930 (‡) -11110
WTR YR 1986 MAX 44280 MIN 20930 (‡) -1690

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

08049200 LAKE ARLINGTON AT ARLINGTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1969 to current year.

324304097113601 - LAKE ARLINGTON SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
JAN									
15...	1020	1.00	276	8.50	10.5	0.9	10.1	91	110
15...	1021	10.0	276	8.40	10.5	--	9.8	88	--
15...	1022	20.0	276	8.30	10.0	--	9.6	85	--
15...	1023	30.0	276	8.30	10.0	--	9.2	--	--
15...	1024	35.0	276	8.30	10.0	--	9.1	81	--
15...	1025	42.0	281	8.20	10.0	--	7.6	68	110
MAY									
08...	0946	1.00	301	8.20	24.5	0.7	6.8	83	100
08...	0947	10.0	301	8.10	24.5	--	6.8	83	--
08...	0948	20.0	301	8.10	24.0	--	6.8	82	--
08...	0949	30.0	301	7.90	24.0	--	6.8	82	--
08...	0950	35.0	301	8.10	24.0	--	6.6	80	--
08...	0951	40.0	301	8.00	24.0	--	4.4	53	--
08...	0952	44.0	303	7.60	24.0	--	3.4	41	110
AUG									
11...	0852	1.00	300	8.10	30.5	1.20	5.5	--	110
11...	0854	10.0	300	8.00	30.5	--	5.3	--	--
11...	0856	20.0	300	7.80	30.0	--	4.5	--	--
11...	0858	30.0	300	7.40	29.5	--	1.8	--	--
11...	0900	40.0	336	7.30	26.0	--	1.6	20	120

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JAN									
15...	18	35	4.9	18	0.8	5.1	90	22	22
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	20	36	4.8	18	0.8	5.0	90	24	22
MAY									
08...	14	34	4.5	18	0.8	4.7	89	30	21
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	12	37	4.7	18	0.8	4.7	100	31	21
AUG									
11...	11	37	4.6	17	0.7	4.9	100	25	15
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	0	42	4.7	17	0.7	5.0	143	12	14

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN								
15...	0.3	2.9	160	0.20	0.7	0.03	19	7
15...	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--
15...	--	--	--	0.10	0.6	0.03	90	30
15...	--	--	--	--	--	--	--	--
15...	--	3.5	170	0.20	0.8	0.05	84	120
MAY								
08...	0.2	2.6	170	0.20	0.6	0.03	6	7
08...	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--
08...	--	--	--	0.20	0.7	0.03	20	40
08...	--	--	--	0.30	0.7	0.05	10	100
08...	--	--	--	--	--	--	--	--
08...	--	5.1	180	0.20	0.7	0.05	28	1000
AUG								
11...	0.3	4.7	170	<0.10	0.6	0.03	10	16
11...	--	--	--	--	--	--	--	--
11...	--	--	--	<0.10	0.6	0.03	20	160
11...	--	--	--	<0.10	0.8	0.05	60	690
11...	--	9.0	200	<0.10	3.3	0.37	650	5700

LAKE ARLINGTON AT ARLINGTON, TX--Continued

324320097121101 - LAKE ARLINGTON SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
15...	1055	1.00	275	8.50	11.0	10.2	93
15...	1056	10.0	276	8.40	10.5	10.0	90
15...	1057	20.0	276	8.40	10.0	9.1	81
15...	1058	31.0	277	8.30	10.0	8.6	76
MAY							
08...	1033	1.00	302	8.20	25.0	6.8	84
08...	1034	10.0	302	8.20	25.0	6.8	84
08...	1035	20.0	302	8.20	25.0	6.8	84
08...	1036	30.0	302	8.10	24.5	6.4	78
08...	1037	35.0	302	8.10	24.0	6.2	75
AUG							
11...	0916	1.00	295	8.00	30.5	5.0	--
11...	0918	10.0	295	8.00	30.5	4.8	--
11...	0920	20.0	295	7.80	30.0	4.0	--
11...	0922	34.0	300	7.60	29.0	1.5	--

324253097121801 - LAKE ARLINGTON SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
15...	1115	1.00	272	8.60	11.0	10.2	93
15...	1116	10.0	272	8.40	10.0	9.4	84
15...	1117	20.0	272	8.40	10.0	9.4	84
15...	1118	32.0	273	8.40	10.0	9.0	80
MAY							
08...	1048	1.00	301	8.30	24.5	6.8	83
08...	1049	10.0	301	8.30	24.5	6.8	83
08...	1050	20.0	301	8.20	24.5	6.8	83
08...	1051	30.0	301	8.20	24.0	6.7	81
08...	1052	37.0	301	8.20	24.0	6.6	80
AUG							
11...	0931	1.00	294	8.30	30.5	5.4	--
11...	0933	10.0	294	8.30	30.5	5.2	--
11...	0935	20.0	288	8.30	30.0	5.0	--
11...	0937	34.0	288	8.20	29.5	4.7	--

324301097123301 - LAKE ARLINGTON SITE BL

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
15...	1130	1.00	270	8.60	11.0	10.0	91
15...	1131	10.0	270	8.50	10.0	9.5	84
15...	1132	23.0	270	8.50	10.0	9.4	84
MAY							
08...	1109	1.00	302	8.20	25.0	6.7	83
08...	1110	10.0	302	8.20	25.0	6.7	83
08...	1111	20.0	302	8.20	24.5	6.7	82
08...	1112	31.0	302	8.20	24.0	6.4	77
AUG							
11...	0946	1.00	294	8.30	31.0	5.5	--
11...	0948	10.0	294	8.30	30.0	5.2	--
11...	0950	22.0	288	8.30	29.5	5.1	--

LAKE ARLINGTON AT ARLINGTON, TX--Continued

324257097130301 - LAKE ARLINGTON SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
15...	1150	1.00	273	8.40	13.0	9.8	93
15...	1151	11.0	273	8.40	13.0	9.8	93
MAY							
08...	1116	1.00	302	8.10	31.0	6.3	--
08...	1117	10.0	302	8.10	29.5	6.4	--
08...	1118	18.0	302	8.10	29.0	6.4	--
AUG							
11...	0951	1.00	294	8.10	34.0	5.0	--
11...	0953	15.0	294	8.30	34.0	5.0	--

324228097130301 - LAKE ARLINGTON SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
15...	1200	1.00	271	8.40	11.5	9.8	90
15...	1201	10.0	268	8.40	10.5	9.4	85
15...	1202	16.0	268	8.40	10.5	9.3	84
MAY							
08...	1129	1.00	300	8.10	27.0	6.6	84
08...	1130	10.0	300	8.10	25.5	6.5	81
08...	1131	20.0	300	8.10	26.0	6.4	80
AUG							
11...	1007	1.00	295	8.20	32.5	5.0	--
11...	1009	10.0	295	8.20	31.0	5.0	--
11...	1011	15.0	295	7.20	30.5	3.7	--

324143097132201 - LAKE ARLINGTON SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
JAN									
15...	1215	1.00	260	8.70	10.5	0.7	10.3	93	100
15...	1216	10.0	260	8.60	10.0	--	10.1	90	--
15...	1217	24.0	252	8.50	9.5	--	9.5	--	98
MAY									
08...	1146	1.00	293	8.20	24.0	0.4	6.8	82	100
08...	1147	10.0	293	8.20	24.0	--	6.8	82	--
08...	1148	24.0	293	8.10	24.5	--	6.7	82	100
AUG									
11...	1026	1.00	293	8.50	30.5	1.00	5.4	--	110
11...	1028	10.0	286	8.40	29.0	--	4.8	--	--
11...	1030	22.0	284	8.30	28.5	--	4.6	--	110

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM AD-SORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)
JAN								
15...	17	34	4.8	18	0.8	5.0	88	21
15...	--	--	--	--	--	--	--	--
15...	13	32	4.5	17	0.8	4.9	85	19
MAY								
08...	15	34	4.5	18	0.8	4.7	88	30
08...	--	--	--	--	--	--	--	--
08...	14	33	4.5	18	0.8	4.7	87	31
AUG								
11...	14	38	4.6	17	0.7	4.8	100	25
11...	--	--	--	--	--	--	--	--
11...	11	36	4.4	17	0.7	4.8	97	25

LAKE ARLINGTON AT ARLINGTON, TX--Continued

324143097132201 - LAKE ARLINGTON SITE EC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN								
15...	22	2.8	160	0.10	0.7	0.04	4	3
15...	--	--	--	--	--	--	--	--
15...	21	3.1	150	0.20	0.6	0.03	26	5
MAY								
08...	21	2.7	170	0.20	0.7	0.04	9	<1
08...	--	--	--	--	--	--	--	--
08...	21	2.8	170	0.20	0.8	0.06	9	19
AUG								
11...	15	4.8	170	<0.10	0.6	0.04	6	3
11...	--	--	--	--	--	--	--	--
11...	15	4.6	160	<0.10	0.8	0.07	10	13

324133097130601 - LAKE ARLINGTON SITE EL

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
15...	1235	1.00	269	8.60	10.5	10.0	90
15...	1236	11.0	267	8.60	10.5	9.9	89
MAY							
08...	1201	1.00	293	8.20	24.0	6.9	83
08...	1202	10.0	293	8.20	24.0	6.8	82
08...	1203	17.0	291	8.20	24.0	6.8	82
AUG							
11...	1035	1.00	295	8.50	30.5	5.5	--
11...	1037	15.0	286	8.40	29.0	4.9	--

324041097134601 - LAKE ARLINGTON SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
JAN									
15...	1250	1.00	258	8.70	10.5	0.6	10.4	93	100
15...	1251	10.0	258	8.60	10.0	--	10.2	91	100
MAY									
08...	1225	1.00	253	8.10	23.5	0.3	6.9	83	82
08...	1226	14.0	248	8.10	23.0	--	6.9	82	82
AUG									
11...	1051	1.00	285	8.40	29.5	0.6	5.5	--	110
11...	1053	9.00	240	8.20	28.5	--	4.4	--	86

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)
JAN								
15...	20	33	4.8	18	0.8	4.9	82	21
15...	18	33	4.8	18	0.8	4.9	84	20
MAY								
08...	0	26	4.1	16	0.8	4.4	86	25
08...	12	26	4.1	15	0.8	4.4	70	27
AUG								
11...	11	35	4.4	17	0.8	4.7	95	25
11...	16	28	3.8	14	0.7	4.3	70	22

LAKE ARLINGTON AT ARLINGTON, TX--Continued

324041097134601 - LAKE ARLINGTON SITE FC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN								
15...	22	3.0	160	0.10	0.7	0.03	5	2
15...	22	3.0	160	0.10	0.7	0.04	6	4
MAY								
08...	16	3.4	150	0.20	0.7	0.06	9	1
08...	18	3.4	140	0.30	0.7	0.06	28	5
AUG								
11...	15	4.7	160	<0.10	0.6	0.04	13	2
11...	14	4.5	130	0.20	0.7	0.11	30	11

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX

LOCATION.--Lat 32°45'46", long 96°59'42", Dallas County, Hydrologic Unit 12030102, on left bank at upstream side of bridge on Belt Line Road, 1.3 mi northeast of Grand Prairie, 3.7 mi upstream from Mountain Creek, and at mile 514.6.

DRAINAGE AREA.--3,065 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1925 to current year.

REVISED RECORDS.--WSP 628: 1925. WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 405.42 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 6, 1933, nonrecording gage at bridge on old channel 2,500 ft southeast of present site at datum 7.56 ft higher. Dec. 6, 1933, to May 24, 1956, water-stage recorder at site 440 ft downstream from site of nonrecording gage at datum 7.56 ft higher than present datum. May 25, 1956, to Apr. 18, 1957, nonrecording gage at site 1.5 mi downstream at different datum. Apr. 19 to Aug 13, 1957, nonrecording gage on bridge at present site and at datum 5.00 ft higher than present datum.

REMARKS.--Estimated daily discharges: Oct. 11-16 and Dec. 20 to Jan. 5. Records good except for estimated daily discharge, which are fair. Flow is affected at times by three upstream reservoirs with a combined capacity of 248,600 acre-ft, of which 76,550 acre-ft is for flood control. During the current year, the city of Fort Worth discharged sewage effluent into the river upstream from this station. There are many diversions upstream from this station for municipal, industrial, and other uses. The river channel at this station was relocated and recitified in 1956. Gage-height telemeter at station.

AVERAGE DISCHARGE.--61 years (water years 1926-86), 555 ft³/s (402,100 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,000 ft³/s May 17, 1949 (gage-height, 28.00 ft, site and datum then in use), from rating curve extended above 36,000 ft³/s; minimum observed, 3.2 ft³/s June 6, 1925.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 30.6 ft in May 1908 (former site and datum), from information by local resident. Flood in April 1922 reached a stage of 29.0 ft (former site and datum), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,220 ft³/s June 2 at 2000 hours (gage height, 23.05 ft); minimum daily, discharge, 76 ft³/s Aug. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	248	202	407	203	160	216	173	1130	3340	608	132	1060
2	172	257	365	200	163	245	180	615	7440	480	114	3560
3	142	217	242	195	1020	246	185	304	7290	286	170	940
4	126	184	226	211	1800	207	850	237	7260	332	1730	295
5	98	178	214	217	955	182	1230	195	4980	321	325	301
6	102	175	232	222	1950	236	484	182	4780	289	202	1090
7	107	175	200	206	671	233	275	174	3910	271	162	534
8	112	167	200	187	458	218	233	244	3210	279	152	414
9	113	164	180	175	405	213	203	1340	5620	265	137	221
10	105	163	206	194	465	211	192	3460	4510	258	896	193
11	133	167	531	180	363	202	176	1730	3940	260	729	156
12	125	166	461	181	315	247	266	701	3700	248	260	191
13	109	172	282	167	299	251	193	409	3030	243	194	317
14	107	179	214	165	276	364	179	290	2580	237	152	226
15	116	1730	217	167	264	375	162	242	2510	238	143	183
16	100	866	217	166	270	290	149	238	2700	228	122	155
17	171	318	208	172	281	225	232	1710	3550	196	110	134
18	1220	278	211	144	270	493	178	3420	3220	187	105	129
19	2860	313	211	151	270	541	1140	1160	3010	170	113	119
20	2180	211	208	190	240	280	4590	669	2750	157	104	116
21	443	169	213	179	240	235	851	470	2760	150	103	132
22	328	206	213	191	223	212	399	363	2540	602	100	190
23	297	231	211	173	219	195	295	301	2520	368	93	143
24	253	232	208	160	221	207	249	367	2470	211	88	127
25	227	213	210	156	224	227	241	5360	2510	164	131	118
26	201	301	209	151	226	223	228	1940	2070	141	118	112
27	175	764	208	140	214	215	261	894	1490	138	110	108
28	175	443	206	174	201	178	400	689	1080	155	104	113
29	459	273	207	158	---	199	261	430	834	170	93	142
30	392	256	201	176	---	184	245	347	669	163	85	239
31	263	---	201	171	---	167	---	882	---	151	76	---
TOTAL	11659	9370	7519	5522	12653	7717	14700	30493	102273	7966	7153	11758
MEAN	376	312	243	178	452	249	490	984	3409	257	231	392
MAX	2860	1730	531	222	1950	541	4590	5360	7440	608	1730	3560
MIN	98	163	180	140	160	167	149	174	669	138	76	108
AC-FT	23130	18590	14910	10950	25120	15310	29160	60480	202900	15800	14190	23320

CAL YR 1985 TOTAL 146123 MEAN 400 MAX 4260 MIN 61 AC-FT 289800
WTR YR 1986 TOTAL 228793 MEAN 627 MAX 7440 MIN 76 AC-FT 453800

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: January 1964 to current year. Chemical and biochemical analyses: January 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1966 to current year.
pH: October 1976 to current year.
WATER TEMPERATURES: October 1966 to current year.
DISSOLVED OXYGEN: October 1976 to current year.

INSTRUMENTATION.--Beginning November 1976, a four-parameter water-quality monitor records temperature, DO, pH, and specific conductance continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum or minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,320 microsiemens Dec. 12, 1978; minimum, 108 microsiemens May 1, 1986.
pH: Maximum, 8.6 units July 2, 1981, June 27, 1982, Mar. 26, 1983, and Feb. 5, 1986; minimum, 6.6 units Jan. 6, 1979.
WATER TEMPERATURES: Maximum, 35.0°C Aug. 8, 1982; minimum, 3.0°C Jan. 9, 1973.
DISSOLVED OXYGEN: Maximum, 14.8 mg/L Dec. 14, 16, 1983; minimum, 0.0 mg/L on several days each year.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 977 microsiemens Apr. 18; minimum, 108 microsiemens May 1.
pH: Maximum, 8.6 units Feb. 5; minimum, 7.1 units Dec. 17, Apr. 5, Sept. 30.
WATER TEMPERATURES: Maximum, 34.5°C May 12; minimum, 8.5°C Feb. 11.
DISSOLVED OXYGEN: Maximum, 13.6 mg/L Dec. 5; minimum, 0.6 mg/L Feb. 3, Aug. 4.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 12...	1430	168	758	7.40	20.5	5.6	63	3.9	160	18
JAN 28...	1330	174	796	7.50	14.0	8.5	84	5.1	170	15
APR 14...	1330	179	770	7.40	23.0	6.3	74	3.2	180	18
JUN 16...	1300	2400	456	7.50	27.0	6.2	79	1.9	160	13
JUL 21...	1400	150	748	7.50	32.0	5.8	--	1.5	170	16
SEP 08...	1245	370	394	7.30	25.5	6.5	80	2.0	120	29

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 12...	52	7.1	82	3	1.6	141	77	77	0.8
JAN 28...	56	7.7	90	3	10	157	75	91	0.9
APR 14...	60	7.4	78	3	10	162	81	76	0.8
JUN 16...	52	6.4	26	0.9	5.7	143	34	30	0.3
JUL 21...	55	7.2	83	3	9.4	151	65	83	0.9
SEP 08...	40	4.5	28	1	6.0	89	41	33	0.4

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
NOV 12...	8.4	390	6.50	0.60	7.10	0.98	1.0	2.0	2.30
JAN 28...	7.6	430	6.37	0.73	7.10	0.97	1.7	2.7	2.50
APR 14...	8.2	420	4.48	0.22	4.70	0.48	1.1	1.6	1.70
JUN 16...	5.3	250	1.06	0.04	1.10	0.13	0.67	0.8	0.33
JUL 21...	9.7	400	7.36	0.24	7.60	0.36	1.0	1.4	2.20
SEP 08...	7.7	210	3.11	0.09	3.20	0.16	1.0	1.2	0.57

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	11659	494	277	8720	43	1360	51	1610	140
NOV. 1985	9370	618	347	8790	55	1390	66	1680	160
DEC. 1985	7519	677	381	7730	61	1240	74	1500	170
JAN. 1986	5522	815	459	6850	75	1120	93	1390	180
FEB. 1986	12663	617	346	11800	55	1890	67	2280	160
MAR. 1986	7717	774	436	9090	71	1480	88	1830	180
APR. 1986	14700	536	300	11900	47	1870	56	2230	140
MAY 1986	30493	473	264	21800	41	3350	47	3910	140
JUNE 1986	102273	411	230	63400	35	9640	40	11100	130
JULY 1986	7966	659	370	7960	59	1270	71	1530	170
AUG. 1986	7153	600	337	6510	53	1030	64	1240	160
SEPT 1986	11758	468	262	8310	41	1290	48	1510	130
TOTAL	228793	**	**	173000	**	26900	**	31800	**
WTD.AVG.	627	500	280	**	44	**	51	**	140

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	569	416	487	729	695	711	651	551	626	795	765	778
2	683	579	638	741	711	723	633	545	583	809	783	798
3	711	685	699	705	659	681	611	571	586	799	743	779
4	743	711	732	727	693	710	667	615	636	831	755	792
5	763	741	752	725	685	705	695	639	659	907	793	829
6	781	751	767	821	719	748	709	673	692	849	793	824
7	761	735	754	771	755	763	721	661	694	805	765	786
8	749	715	732	769	729	756	709	661	686	811	777	794
9	771	735	755	807	741	770	701	637	676	833	795	816
10	807	757	780	807	753	781	681	505	631	855	833	846
11	791	725	752	783	761	772	611	438	541	839	819	833
12	771	745	758	777	731	749	517	488	505	827	791	814
13	743	677	704	769	730	756	587	498	529	825	789	811
14	749	703	728	797	765	785	605	567	579	793	763	773
15	719	655	686	783	22	433	645	589	601	841	769	799
16	727	683	709	507	360	433	651	613	628	859	829	842
17	743	523	705	613	495	551	749	599	669	855	831	840
18	731	326	517	711	617	659	883	749	779	837	803	823
19	322	254	294	765	63	687	835	809	816	851	813	834
20	390	282	329	705	65	681	885	803	817	851	801	823
21	571	394	496	797	69	737	855	827	840	839	777	805
22	653	573	610	845	74	801	841	779	821	819	777	793
23	695	645	672	791	74	777	891	777	807	853	803	826
24	717	673	697	789	73	762	783	739	759	847	797	829
25	739	705	728	797	76	779	807	755	774	823	799	817
26	759	737	748	791	58	736	807	751	784	833	805	817
27	765	729	750	641	53	584	767	713	745	841	799	817
28	759	731	749	571	52	546	801	735	768	833	785	804
29	751	462	608	667	57	613	819	783	805	889	805	839
30	633	553	581	661	61	638	897	755	812	865	839	850
31	687	613	642	---	--	---	787	753	768	861	831	844
MONTH	807	254	663	845	22	694	897	438	697	907	743	815

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	891	857	873	847	833	838	775	735	757	687	108	467
2	893	825	850	859	819	838	823	747	797	553	336	462
3	879	452	719	857	793	827	821	777	801	---	---	637
4	482	422	455	---	---	829	791	476	643	---	---	670
5	561	280	460	---	---	830	569	358	465	---	---	688
6	478	354	392	---	---	825	553	410	500	---	---	695
7	577	388	480	---	---	826	637	557	597	---	---	700
8	631	567	610	---	---	826	689	617	647	---	---	670
9	657	591	627	---	---	826	795	693	734	---	---	472
10	655	603	633	---	---	827	793	767	780	---	---	414
11	677	589	625	---	---	830	763	707	734	---	---	448
12	703	663	684	---	---	827	729	569	673	---	---	540
13	751	693	724	866	846	853	769	629	731	---	---	603
14	765	737	754	869	811	849	765	723	751	---	---	645
15	883	767	791	801	673	725	757	721	742	---	---	670
16	847	793	814	760	698	727	881	757	798	---	---	673
17	849	783	815	792	766	778	831	569	742	---	---	448
18	883	785	806	787	621	717	977	791	825	---	---	414
19	879	819	852	712	556	615	827	198	614	---	---	483
20	849	835	841	728	578	653	428	282	319	---	---	545
21	849	819	834	753	707	733	529	346	455	---	---	585
22	843	819	830	766	741	755	647	529	593	---	---	615
23	851	823	837	784	762	774	721	629	674	---	---	633
24	847	803	822	778	738	761	751	705	729	---	---	614
25	813	757	780	751	713	733	771	713	745	---	---	392
26	827	783	810	806	754	780	761	723	744	---	---	440
27	837	815	826	804	790	798	759	707	737	---	---	511
28	847	817	830	821	799	808	855	611	713	---	---	543
29	---	---	---	801	771	791	---	---	670	---	---	598
30	---	---	---	792	736	769	---	---	690	---	---	625
31	---	---	---	788	758	771	---	---	---	---	---	515
MONTH	893	280	728	869	556	785	977	198	680	687	108	562

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	425	567	523	550	791	759	780	785	268	575
2	---	---	261	619	541	576	793	747	779	394	226	283
3	376	362	369	707	529	629	781	665	748	432	284	349
4	388	322	353	727	691	711	745	290	435	619	440	528
5	448	392	429	703	657	679	567	378	474	653	593	623
6	440	418	425	685	647	665	679	569	623	531	338	423
7	488	440	458	647	609	627	703	683	693	547	342	417
8	474	428	463	667	617	636	721	699	712	549	392	479
9	422	348	387	691	661	673	727	679	714	626	504	562
10	424	388	411	695	663	678	751	192	617	642	612	624
11	---	---	422	683	661	675	569	218	463	630	602	618
12	---	---	427	689	671	681	597	482	537	658	608	628
13	---	---	440	695	663	681	711	605	656	652	526	554
14	---	---	448	693	647	670	739	685	704	560	480	521
15	---	---	450	693	643	664	759	729	745	592	528	553
16	466	390	446	703	683	693	757	735	745	618	568	589
17	440	380	405	711	691	696	755	727	745	672	612	645
18	444	404	429	733	711	722	769	725	752	706	668	688
19	456	420	440	745	707	725	741	701	723	706	670	689
20	462	440	450	747	717	735	777	719	749	702	664	686
21	450	438	446	753	741	749	789	763	774	704	646	674
22	450	432	443	691	276	568	823	763	808	662	598	639
23	444	426	437	641	498	592	793	753	774	734	588	660
24	450	432	439	709	645	676	789	751	770	760	722	738
25	452	408	427	745	711	724	797	747	778	892	766	805
26	442	428	437	755	711	736	769	675	714	896	780	838
27	480	440	460	781	743	767	755	701	732	846	788	823
28	507	470	489	771	727	752	793	747	774	844	766	783
29	531	501	521	731	683	704	815	703	793	786	726	771
30	549	523	541	761	723	748	779	751	766	778	678	718
31	---	---	---	769	751	760	763	741	752	---	---	---
MONTH	549	322	433	781	276	682	823	192	704	896	226	616

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.60	7.50	7.50	7.60	7.60	7.60	7.50	7.30	7.40	7.60	7.50	7.50
2	7.50	7.50	7.50	7.60	7.50	7.60	7.60	7.40	7.50	7.70	7.50	7.50
3	7.60	7.50	7.50	7.60	7.50	7.60	7.40	7.40	7.40	7.60	7.50	7.50
4	7.60	7.50	7.60	7.60	7.50	7.60	7.50	7.30	7.40	7.60	7.50	7.50
5	7.60	7.60	7.60	7.60	7.50	7.50	7.50	7.30	7.40	7.60	7.50	7.50
6	7.60	7.60	7.60	7.60	7.40	7.50	7.40	7.30	7.40	7.60	7.50	7.60
7	7.60	7.60	7.60	7.50	7.40	7.40	7.40	7.30	7.30	7.60	7.50	7.60
8	7.60	7.50	7.50	7.50	7.40	7.50	7.40	7.30	7.30	7.60	7.50	7.60
9	7.50	7.50	7.50	7.50	7.40	7.40	7.30	7.20	7.30	7.60	7.50	7.50
10	7.60	7.50	7.50	7.50	7.40	7.40	7.50	7.20	7.30	7.50	7.40	7.50
11	7.60	7.50	7.60	7.50	7.40	7.50	7.40	7.30	7.30	7.50	7.50	7.50
12	7.60	7.60	7.60	7.50	7.40	7.40	7.50	7.30	7.40	7.50	7.50	7.50
13	7.70	7.60	7.70	7.40	7.40	7.40	7.30	7.30	7.30	7.50	7.50	7.50
14	7.70	7.60	7.60	7.40	7.30	7.40	7.30	7.30	7.30	7.50	7.50	7.50
15	7.70	7.50	7.60	8.10	7.40	7.60	7.30	7.20	7.30	7.50	7.40	7.50
16	7.70	7.50	7.60	7.60	7.50	7.60	7.20	7.20	7.20	7.50	7.50	7.50
17	7.70	7.60	7.60	7.60	7.50	7.50	7.50	7.10	7.30	7.50	7.50	7.50
18	7.70	7.50	7.60	7.50	7.50	7.50	7.50	7.40	7.50	7.50	7.50	7.50
19	7.90	7.60	7.70	7.50	7.40	7.50	7.60	7.50	7.50	7.50	7.40	7.50
20	7.70	7.50	7.60	7.90	7.50	7.60	7.50	7.40	7.50	7.50	7.40	7.40
21	7.60	7.50	7.50	8.00	7.50	7.60	7.50	7.30	7.40	7.50	7.40	7.50
22	7.60	7.50	7.50	7.50	7.40	7.50	7.40	7.30	7.40	7.50	7.40	7.50
23	7.60	7.50	7.50	7.50	7.40	7.40	7.50	7.30	7.40	7.50	7.50	7.50
24	7.60	7.50	7.60	7.50	7.40	7.40	7.50	7.40	7.40	7.60	7.50	7.50
25	7.60	7.50	7.60	7.40	7.40	7.40	7.60	7.50	7.50	7.60	7.50	7.50
26	7.60	7.60	7.60	7.50	7.40	7.40	7.60	7.50	7.50	7.60	7.50	7.50
27	7.60	7.50	7.60	7.60	7.40	7.50	7.60	7.50	7.50	7.60	7.50	7.50
28	7.60	7.60	7.60	7.60	7.40	7.50	7.60	7.50	7.50	7.60	7.50	7.50
29	7.70	7.50	7.60	7.60	7.50	7.60	7.60	7.50	7.50	7.50	7.40	7.50
30	7.60	7.50	7.60	7.50	7.40	7.50	7.60	7.50	7.60	7.50	7.50	7.50
31	7.60	7.60	7.60	---	---	---	7.60	7.50	7.50	7.50	7.50	7.50
MONTH	7.90	7.50	7.58	8.10	7.30	7.50	7.60	7.10	7.40	7.70	7.40	7.51

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.50	7.40	7.40	7.70	7.70	7.70	7.70	7.50	7.60	7.60	7.30	7.50
2	7.50	7.40	7.50	7.70	7.60	7.60	7.60	7.50	7.50	7.60	7.30	7.40
3	8.00	7.30	7.50	7.70	7.60	7.60	7.60	7.50	7.50	---	---	---
4	7.60	7.40	7.50	---	---	---	7.60	7.20	7.40	---	---	---
5	8.60	7.60	7.70	---	---	---	7.50	7.10	7.40	---	---	---
6	7.70	7.60	7.60	---	---	---	7.40	7.40	7.40	---	---	---
7	7.60	7.60	7.60	---	---	---	7.50	7.40	7.40	---	---	---
8	7.70	7.60	7.60	---	---	---	7.50	7.50	7.50	---	---	---
9	7.70	7.60	7.70	---	---	---	7.50	7.50	7.50	---	---	---
10	7.70	7.60	7.60	---	---	---	7.50	7.50	7.50	---	---	---
11	7.70	7.60	7.60	---	---	---	7.50	7.40	7.50	---	---	---
12	7.70	7.60	7.60	---	---	---	7.60	7.40	7.50	---	---	---
13	7.60	7.60	7.60	7.80	7.70	7.70	7.60	7.50	7.50	---	---	---
14	7.60	7.60	7.60	7.70	7.60	7.70	7.60	7.50	7.50	---	---	---
15	7.70	7.60	7.60	7.70	7.60	7.70	7.60	7.50	7.50	---	---	---
16	7.70	7.60	7.60	7.70	7.60	7.60	7.60	7.50	7.50	---	---	---
17	7.70	7.60	7.60	7.70	7.60	7.60	7.60	7.50	7.50	---	---	---
18	7.60	7.60	7.60	7.70	7.50	7.60	7.50	7.40	7.50	---	---	---
19	7.70	7.60	7.60	7.70	7.50	7.60	8.00	7.40	7.60	---	---	---
20	7.60	7.60	7.60	7.70	7.50	7.70	7.70	7.50	7.60	7.40	7.30	7.40
21	7.70	7.60	7.60	7.70	7.70	7.70	7.60	7.40	7.50	7.60	7.40	7.40
22	7.70	7.60	7.70	7.70	7.60	7.70	7.50	7.50	7.50	---	---	---
23	7.70	7.60	7.60	7.70	7.70	7.70	7.50	7.50	7.50	---	---	---
24	7.70	7.60	7.60	7.70	7.70	7.70	7.50	7.50	7.50	---	---	---
25	7.60	7.60	7.60	7.80	7.60	7.70	7.60	7.50	7.50	---	---	---
26	7.60	7.50	7.50	7.70	7.60	7.60	7.60	7.50	7.50	---	---	---
27	7.70	7.60	7.60	7.70	7.60	7.60	7.60	7.50	7.60	---	---	---
28	7.80	7.60	7.70	7.70	7.60	7.70	7.50	7.50	7.50	---	---	---
29	---	---	---	7.70	7.70	7.70	---	---	---	---	---	---
30	---	---	---	7.80	7.70	7.70	---	---	---	---	---	---
31	---	---	---	7.80	7.70	7.70	---	---	---	---	---	---
MONTH	8.60	7.30	7.59	7.80	7.50	7.66	8.00	7.10	7.50	7.60	7.30	7.43

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	7.50	7.50	7.50	7.70	7.60	7.70	7.60	7.30	7.40
2	---	---	---	7.50	7.40	7.50	7.70	7.60	7.60	7.60	7.30	7.50
3	7.50	7.50	7.50	7.40	7.30	7.40	7.60	7.50	7.50	7.40	7.30	7.30
4	7.50	7.40	7.50	7.40	7.20	7.30	7.70	7.20	7.40	7.30	7.30	7.30
5	7.60	7.50	7.60	7.50	7.20	7.40	7.40	7.30	7.40	7.30	7.30	7.30
6	7.70	7.50	7.60	7.50	7.30	7.40	7.50	7.30	7.40	7.40	7.30	7.30
7	8.00	7.60	7.70	7.60	7.30	7.50	7.50	7.40	7.40	7.40	7.30	7.30
8	7.60	7.60	7.60	7.50	7.40	7.40	7.60	7.50	7.60	7.40	7.30	7.30
9	7.60	7.40	7.50	7.50	7.40	7.40	7.80	7.60	7.60	7.40	7.30	7.40
10	7.60	7.50	7.50	7.60	7.40	7.50	8.20	7.50	7.80	7.50	7.30	7.40
11	---	---	---	7.60	7.50	7.60	8.00	7.50	7.60	8.20	7.40	7.60
12	---	---	---	7.60	7.50	7.50	7.50	7.40	7.50	7.50	7.40	7.50
13	---	---	---	7.60	7.50	7.50	7.60	7.50	7.50	7.50	7.40	7.50
14	---	---	---	7.60	7.50	7.60	7.70	7.60	7.60	7.50	7.40	7.40
15	---	---	---	7.60	7.50	7.50	7.70	7.60	7.60	7.40	7.30	7.40
16	7.70	7.60	7.70	7.60	7.40	7.50	7.70	7.60	7.60	7.40	7.30	7.40
17	7.60	7.50	7.50	7.70	7.50	7.60	7.80	7.60	7.70	7.40	7.30	7.40
18	7.60	7.50	7.60	7.60	7.50	7.50	7.80	7.70	7.70	7.40	7.40	7.40
19	7.60	7.50	7.60	7.60	7.50	7.50	7.80	7.60	7.70	7.50	7.40	7.40
20	7.60	7.50	7.50	7.60	7.40	7.50	7.90	7.60	7.70	7.60	7.40	7.50
21	7.60	7.50	7.60	7.60	7.50	7.50	7.80	7.70	7.70	7.50	7.30	7.40
22	7.50	7.60	7.60	7.80	7.20	7.40	7.80	7.60	7.70	7.60	7.30	7.40
23	7.60	7.60	7.60	7.60	7.30	7.50	7.80	7.60	7.70	7.40	7.20	7.30
24	7.60	7.60	7.60	7.50	7.40	7.50	7.80	7.60	7.70	7.50	7.30	7.40
25	7.60	7.40	7.50	7.50	7.50	7.50	7.70	7.40	7.60	8.00	7.40	7.50
26	7.60	7.50	7.60	7.50	7.50	7.50	7.60	7.30	7.40	7.40	7.30	7.40
27	7.60	7.40	7.50	7.60	7.50	7.50	7.50	7.30	7.40	7.40	7.30	7.40
28	7.50	7.40	7.50	7.60	7.50	7.60	7.50	7.30	7.40	7.40	7.30	7.30
29	7.50	7.30	7.40	7.70	7.50	7.60	7.50	7.40	7.40	7.60	7.20	7.30
30	7.50	7.40	7.50	7.70	7.50	7.60	7.50	7.30	7.40	7.40	7.10	7.30
31	---	---	---	7.70	7.60	7.60	7.50	7.30	7.00	---	---	---
MONTH	8.00	7.30	7.56	7.80	7.20	7.50	8.20	7.20	7.55	8.20	7.10	7.39

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	21.5	19.5	20.5	19.5	19.0	19.0	16.0	14.5	15.5	14.0	13.5	14.0
2	22.5	20.5	21.5	20.0	19.0	19.5	14.0	10.5	12.0	15.0	13.5	14.0
3	24.0	22.0	23.0	19.5	18.0	19.0	13.5	12.0	12.5	14.5	13.5	14.0
4	24.0	23.0	23.5	19.5	18.5	19.0	16.0	13.5	15.0	15.0	14.0	14.5
5	23.5	22.0	23.0	20.0	19.0	19.5	16.0	15.0	15.5	14.0	13.0	13.5
6	23.0	21.5	22.5	20.5	19.5	20.0	16.0	15.0	15.5	13.5	13.0	13.0
7	24.0	22.0	23.0	20.0	19.0	19.5	16.5	15.5	16.0	13.5	12.5	13.0
8	24.0	23.0	23.5	20.0	18.5	19.5	17.0	16.0	16.5	12.5	11.5	12.0
9	25.5	24.0	24.5	21.5	20.0	21.0	18.5	17.0	18.0	12.5	11.5	12.0
10	25.5	24.5	25.0	22.5	21.0	22.0	19.5	13.5	18.0	13.5	12.0	13.0
11	25.0	23.5	24.5	21.0	19.5	20.0	14.5	13.0	14.0	14.5	13.0	14.0
12	27.0	25.0	25.5	21.5	19.5	20.5	12.0	11.0	12.0	14.5	13.5	14.0
13	27.0	25.5	26.0	22.5	21.5	22.0	11.5	10.5	11.0	14.5	13.0	14.0
14	26.5	26.0	26.0	23.5	22.5	23.0	11.5	10.0	11.0	14.5	13.5	14.0
15	25.5	24.5	25.0	23.0	14.0	17.0	13.0	11.5	12.0	15.5	14.0	14.5
16	24.5	23.5	24.0	17.0	15.0	16.0	13.5	12.0	13.0	16.5	15.0	16.0
17	24.5	23.5	24.0	19.0	16.5	17.5	13.5	13.0	13.5	18.0	16.5	17.0
18	24.5	23.0	24.0	21.5	19.5	20.5	14.0	12.5	13.0	18.0	17.0	17.5
19	23.0	22.5	22.5	21.5	20.0	21.5	13.0	12.0	12.5	17.5	16.0	17.0
20	23.0	22.0	22.5	20.0	15.0	18.0	13.5	12.5	13.0	17.5	16.0	16.5
21	23.5	22.5	23.0	17.5	13.0	16.5	13.5	12.5	13.0	18.0	16.5	17.0
22	24.0	23.0	23.5	18.5	17.5	18.0	15.0	13.0	14.0	17.0	15.5	16.0
23	25.5	23.5	24.5	20.5	18.5	19.5	15.5	14.5	15.0	15.5	14.5	15.0
24	26.5	24.5	25.5	20.5	19.0	19.5	15.0	13.5	14.5	16.0	15.0	15.5
25	26.0	25.0	25.5	20.5	19.0	19.5	13.5	12.0	13.0	16.5	15.5	16.0
26	25.5	24.5	25.0	21.5	20.5	21.0	12.5	11.0	12.0	15.5	14.5	15.0
27	25.0	24.0	24.0	20.0	18.0	18.5	13.0	12.0	12.5	14.5	13.0	13.5
28	23.5	22.0	23.0	17.5	16.0	16.5	14.0	13.0	13.0	15.0	12.5	13.5
29	22.0	19.0	20.0	16.0	15.0	15.5	14.0	13.0	13.0	16.0	14.5	15.0
30	20.0	19.5	19.5	17.5	16.0	16.5	15.0	13.0	14.0	16.0	14.5	15.0
31	20.0	18.5	19.5	---	---	---	15.0	14.0	14.5	17.5	15.5	16.5
MONTH	27.0	18.5	23.5	23.5	13.0	19.0	19.5	10.0	14.0	18.0	11.5	14.5

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	18.5	17.5	18.0	17.0	15.0	16.0	22.0	21.5	22.0	25.0	23.0	24.0
2	19.5	18.5	19.0	18.0	15.5	17.0	22.5	21.5	22.0	25.0	22.5	23.5
3	19.5	17.5	18.5	18.0	17.0	17.5	22.0	21.5	22.0	28.5	23.0	26.0
4	18.0	17.0	17.5	---	---	---	22.5	21.0	22.0	29.5	24.5	27.0
5	17.0	13.5	16.0	---	---	---	23.5	21.5	22.5	28.5	27.0	28.0
6	14.5	13.5	14.0	---	---	---	24.5	22.5	23.5	30.5	27.0	28.5
7	13.5	13.0	13.0	---	---	---	25.5	23.5	24.5	29.0	27.0	28.0
8	13.0	12.5	13.0	---	---	---	26.0	24.0	25.0	29.5	26.0	27.5
9	12.5	10.5	11.5	---	---	---	24.0	22.5	23.0	26.5	24.0	25.5
10	11.0	9.5	10.5	---	---	---	22.0	21.0	21.5	27.5	24.5	25.0
11	11.0	8.5	10.0	---	---	---	21.5	21.0	21.0	31.5	24.0	27.5
12	11.5	10.0	11.0	---	---	---	22.5	20.0	21.5	34.5	28.5	31.0
13	12.0	11.0	11.5	20.0	19.0	19.5	23.0	21.0	22.0	34.0	30.0	32.5
14	13.5	12.0	13.0	20.0	18.0	19.0	23.5	22.0	22.5	32.0	30.0	31.0
15	14.5	13.0	14.0	20.0	18.0	19.0	23.0	20.5	22.0	33.5	30.5	32.0
16	17.5	14.5	16.0	19.5	18.0	18.5	23.0	20.5	22.0	34.0	31.5	32.5
17	18.0	16.5	17.5	19.5	18.0	19.0	22.0	19.0	21.0	32.0	26.5	28.5
18	18.5	16.5	17.5	20.5	17.5	19.0	22.5	21.0	21.5	28.0	25.5	27.0
19	19.5	17.0	18.5	19.0	17.5	18.0	22.5	18.0	21.0	27.5	18.5	23.0
20	19.5	18.0	19.0	18.5	16.0	17.5	20.5	18.5	19.0	25.0	22.5	23.5
21	18.0	16.0	16.5	18.5	16.5	17.5	20.5	18.5	19.5	26.0	23.5	24.0
22	16.5	15.0	15.5	19.0	16.5	18.0	22.5	19.5	21.0	---	---	---
23	16.5	15.0	16.0	20.0	17.0	18.5	23.0	20.5	22.0	---	---	---
24	17.5	16.0	17.0	20.5	18.5	19.5	24.5	21.5	23.0	---	---	---
25	18.5	16.5	17.5	20.5	18.5	19.5	25.0	22.5	24.0	---	---	---
26	20.0	17.5	19.0	21.0	19.0	20.0	25.5	23.0	24.5	---	---	---
27	19.0	17.5	18.5	22.0	20.0	21.0	24.5	23.5	24.0	---	---	---
28	17.5	16.0	16.5	23.0	20.5	22.0	24.5	22.0	23.5	---	---	---
29	---	---	---	23.0	21.0	22.0	---	---	---	---	---	---
30	---	---	---	23.5	21.0	22.0	---	---	---	---	---	---
31	---	---	---	23.0	21.5	22.5	---	---	---	---	---	---
MONTH	20.0	8.5	15.5	23.5	15.0	19.0	26.0	18.0	22.5	34.5	18.5	27.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	30.0	28.5	29.5	33.5	31.0	32.0	27.5	24.0	25.5
2	---	---	---	29.5	28.5	29.0	33.0	31.0	32.0	25.5	24.0	24.5
3	25.5	25.0	25.0	30.5	27.5	28.5	32.0	30.0	31.0	27.5	25.0	26.0
4	26.5	24.5	25.5	30.5	28.5	29.5	29.5	26.0	28.0	29.0	27.0	28.0
5	27.0	26.5	26.5	30.5	28.5	29.5	30.0	27.0	28.5	28.5	28.0	28.0
6	28.5	26.0	27.0	30.0	28.5	29.0	31.0	28.5	30.0	27.5	26.0	26.5
7	31.0	26.5	28.5	31.0	28.5	30.0	31.0	29.0	30.0	27.0	26.0	26.5
8	28.0	27.0	27.5	31.0	29.0	30.0	31.5	29.5	30.5	26.5	25.0	26.0
9	27.5	26.5	27.0	31.5	29.5	30.5	32.0	29.5	31.0	28.5	26.5	27.5
10	27.0	26.5	27.0	31.5	29.5	30.5	31.5	26.0	29.5	29.5	27.5	28.5
11	---	---	---	31.0	29.0	30.0	30.0	26.5	28.5	30.0	28.0	29.0
12	---	---	---	31.0	29.0	30.0	30.5	28.5	29.5	29.5	24.5	28.5
13	---	---	---	30.0	29.0	29.5	31.5	29.0	30.0	29.0	27.0	28.0
14	---	---	---	31.0	28.5	30.0	31.5	29.0	30.5	28.5	27.0	28.0
15	---	---	---	31.5	29.0	30.5	31.5	29.5	30.5	30.0	28.0	29.0
16	27.5	26.5	27.0	31.5	29.0	30.0	32.0	29.5	31.0	30.5	28.5	29.5
17	26.5	25.5	26.0	31.5	29.0	30.0	33.0	30.0	31.5	30.5	28.5	29.5
18	27.5	26.0	26.5	31.5	29.0	30.5	33.0	31.0	32.0	30.5	29.0	29.5
19	27.5	26.5	27.0	32.0	29.0	30.5	33.0	31.0	32.0	30.5	28.5	29.5
20	28.0	26.5	27.5	32.5	30.0	31.0	32.0	30.5	31.5	30.0	28.5	29.5
21	28.5	27.5	28.0	32.0	30.5	31.0	31.5	30.0	30.5	30.0	28.5	29.5
22	29.0	27.5	28.0	30.5	26.0	29.0	31.0	28.5	30.0	30.0	28.5	29.0
23	29.0	28.0	28.5	32.0	28.0	30.5	30.5	29.0	30.0	30.0	28.0	29.0
24	29.0	27.5	28.0	32.5	30.0	31.5	30.5	29.0	29.5	30.0	28.0	29.0
25	29.0	27.5	28.5	33.0	30.5	31.5	30.5	29.0	30.0	29.5	28.0	28.5
26	29.0	28.0	28.5	33.0	30.5	32.0	31.0	29.0	30.0	29.5	28.0	29.0
27	30.0	28.0	29.0	33.0	30.5	32.0	30.0	29.5	30.0	31.5	28.5	29.5
28	31.0	28.5	29.5	33.0	30.5	32.0	29.5	28.5	29.0	30.0	28.5	29.0
29	31.0	28.5	30.0	33.0	30.5	32.0	29.5	27.5	28.5	29.0	28.0	28.5
30	30.5	28.5	29.5	33.0	30.5	32.0	29.0	27.0	28.0	28.5	28.0	28.5
31	---	---	---	33.0	30.5	32.0	31.0	27.5	28.0	---	---	---
MONTH	31.0	24.5	27.5	33.0	26.0	30.5	33.5	26.0	30.0	31.5	24.0	28.0

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.2	6.5	7.0	7.7	7.3	7.5	7.7	7.0	7.3	9.0	8.1	8.3
2	7.1	6.8	7.0	7.9	7.5	7.7	9.0	7.7	8.6	9.3	8.3	8.7
3	6.9	6.4	6.7	8.8	7.9	8.4	12.7	8.1	8.8	9.6	8.7	9.1
4	6.3	5.9	6.1	8.9	8.3	8.6	13.2	7.9	9.2	9.9	9.1	9.4
5	---	---	---	8.8	8.4	8.5	13.6	7.0	10.0	10.2	9.4	9.7
6	---	---	---	8.3	7.1	7.7	13.0	6.0	8.4	10.2	9.8	10.0
7	---	---	---	7.1	5.6	6.2	12.2	6.1	8.1	10.7	10.2	10.4
8	---	---	---	7.9	5.6	6.2	12.5	5.5	7.9	11.3	10.7	10.9
9	---	---	---	8.3	5.4	6.0	10.3	3.8	6.3	13.4	8.1	10.3
10	---	---	---	8.0	5.2	5.8	5.2	4.2	4.2	8.5	7.6	8.0
11	---	---	---	7.2	5.3	5.6	5.5	5.0	5.2	8.8	7.8	8.3
12	---	---	---	7.5	5.5	5.8	6.2	6.0	6.1	8.8	8.0	8.4
13	---	---	---	5.9	4.3	5.1	6.8	6.6	6.7	8.6	7.7	8.1
14	---	---	---	4.7	4.0	4.3	7.3	7.2	7.2	7.6	6.8	7.3
15	---	---	---	9.2	4.5	7.6	7.8	7.7	7.7	6.7	5.7	6.3
16	---	---	---	7.6	6.2	7.2	8.2	8.1	8.2	5.8	5.2	5.5
17	7.3	6.6	7.0	7.8	7.2	7.5	8.6	7.5	8.2	5.7	5.0	5.2
18	7.6	6.2	6.8	7.1	6.8	7.0	8.8	7.5	8.3	6.7	5.0	5.4
19	7.6	5.7	6.8	6.8	6.2	6.5	9.1	7.6	8.6	8.1	4.9	5.7
20	7.2	5.9	6.5	11.5	6.5	7.3	9.2	7.3	8.7	5.7	5.0	5.5
21	7.1	6.9	7.0	12.6	7.0	7.6	8.6	6.3	7.4	6.0	5.6	5.8
22	7.2	7.0	7.1	7.5	7.0	7.2	8.7	5.7	8.0	6.2	5.9	6.1
23	6.9	6.8	6.8	7.4	6.7	6.9	8.2	6.0	7.3	6.5	6.1	6.3
24	6.8	6.6	6.7	9.3	6.2	6.6	8.7	7.4	8.4	8.3	6.4	6.9
25	6.7	6.5	6.6	6.4	6.0	6.1	8.5	7.9	8.1	7.9	6.7	7.0
26	6.7	6.5	6.6	6.8	5.5	5.9	10.1	7.3	8.4	7.2	6.9	7.1
27	6.9	6.3	6.6	6.9	6.1	6.6	9.4	7.5	7.9	7.5	7.2	7.4
28	7.3	6.7	7.0	7.3	6.0	6.9	9.1	7.4	7.9	8.2	7.3	7.6
29	8.4	7.2	7.8	8.3	7.0	7.4	8.8	7.5	7.7	13.2	6.2	7.9
30	7.7	7.3	7.4	11.6	7.0	7.7	8.6	7.5	7.8	7.2	6.5	6.7
31	7.6	7.3	7.5	---	---	---	8.2	7.7	7.9	6.5	5.6	6.1
MONTH	8.4	5.7	6.9	12.6	4.0	6.9	13.6	3.8	7.8	13.4	4.9	7.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	5.5	3.6	4.5	9.0	8.1	8.4	7.5	7.0	7.2	5.8	1.7	4.1
2	4.2	3.3	3.8	8.9	7.9	8.3	7.3	6.7	7.0	5.7	3.6	5.0
3	5.2	.6	3.2	8.1	7.5	7.8	7.2	6.7	7.0	---	---	---
4	6.7	1.9	5.3	---	---	---	6.9	1.0	4.7	---	---	---
5	8.9	6.7	7.6	---	---	---	6.6	.7	4.6	---	---	---
6	8.4	7.4	7.8	---	---	---	6.4	4.9	6.2	---	---	---
7	8.7	8.2	8.6	---	---	---	6.7	5.9	6.5	---	---	---
8	8.9	8.7	8.9	---	---	---	7.0	6.4	6.7	---	---	---
9	9.4	8.8	9.2	---	---	---	7.0	5.7	6.7	---	---	---
10	9.4	8.9	9.2	---	---	---	6.9	5.7	6.5	---	---	---
11	9.8	9.0	9.5	---	---	---	6.9	6.5	6.7	---	---	---
12	9.5	8.9	9.2	---	---	---	7.1	6.4	6.8	---	---	---
13	9.6	9.1	9.4	8.6	7.5	8.0	7.8	6.5	6.7	---	---	---
14	9.6	9.1	9.4	8.8	7.8	8.2	6.8	6.1	6.4	---	---	---
15	9.5	9.0	9.3	8.7	8.0	8.3	8.1	6.4	6.8	---	---	---
16	9.4	8.9	9.1	8.5	8.1	8.2	9.6	6.5	7.1	---	---	---
17	9.2	8.4	8.8	8.8	8.3	8.6	7.5	6.5	6.9	---	---	---
18	9.1	8.5	8.8	9.2	8.5	8.8	6.9	6.6	6.7	---	---	---
19	8.4	8.0	8.2	9.0	8.5	8.8	8.1	6.1	6.7	---	---	---
20	8.2	7.7	7.9	9.8	8.8	9.4	7.8	4.9	6.2	6.8	6.5	6.7
21	7.9	7.5	7.7	9.9	9.5	9.7	7.0	6.1	6.7	6.8	6.1	6.6
22	8.2	7.8	7.9	9.6	9.0	9.4	7.2	6.9	7.0	---	---	---
23	8.1	7.6	7.8	9.0	8.4	8.8	7.1	6.7	6.9	---	---	---
24	7.9	7.5	7.7	8.4	7.9	8.2	6.8	6.2	6.6	---	---	---
25	7.8	7.4	7.6	8.0	7.6	7.8	6.3	5.9	6.1	---	---	---
26	8.2	7.3	7.7	7.5	7.3	7.4	6.4	6.2	6.3	---	---	---
27	8.5	7.4	7.8	7.3	7.1	7.2	6.4	5.6	6.2	---	---	---
28	11.3	7.7	8.5	7.3	7.0	7.1	6.5	5.6	6.3	---	---	---
29	---	---	---	7.8	6.9	7.0	7.0	5.7	6.3	---	---	---
30	---	---	---	7.9	6.9	7.1	6.9	4.9	5.9	---	---	---
31	---	---	---	7.2	6.9	7.1	---	---	---	---	---	---
MONTH	11.3	.6	7.9	9.9	6.9	8.2	9.6	.7	6.5	6.8	1.7	5.6

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	5.8	5.3	5.5	6.3	4.8	5.5	8.5	4.9	5.8
2	---	---	---	5.7	4.7	5.4	8.3	4.9	5.9	6.5	3.8	5.6
3	6.5	6.1	6.3	5.1	4.0	4.7	5.3	4.6	5.0	5.8	5.4	5.6
4	6.3	6.2	6.2	4.8	2.0	3.9	4.8	.6	3.0	5.6	5.1	5.4
5	6.6	6.3	6.5	5.1	1.9	4.1	4.8	3.2	4.3	5.3	4.9	5.1
6	6.9	6.3	6.6	5.5	3.4	4.7	5.3	4.4	4.9	5.8	5.2	5.6
7	6.9	5.6	6.3	6.3	4.7	6.0	5.2	4.7	5.0	6.4	5.5	5.9
8	6.5	5.7	5.9	6.1	5.1	5.5	5.7	4.7	5.2	6.3	5.7	6.0
9	6.7	5.7	6.2	6.4	4.8	5.5	8.4	4.9	5.7	5.7	5.2	5.5
10	6.7	6.5	6.6	6.7	5.3	5.9	6.6	4.8	5.5	6.0	4.9	5.3
11	---	---	---	6.8	5.6	6.1	5.3	4.5	4.9	6.4	5.0	5.4
12	---	---	---	6.1	5.3	5.7	5.0	4.0	4.6	5.9	5.1	5.4
13	---	---	---	5.7	4.9	5.3	5.5	4.8	5.2	6.3	5.2	5.8
14	---	---	---	5.6	4.9	5.2	5.6	4.9	5.3	6.4	5.4	5.9
15	---	---	---	5.4	4.7	5.0	5.7	4.9	5.3	6.2	5.3	5.7
16	6.2	5.9	6.1	5.0	4.5	4.8	5.9	4.8	5.3	6.1	5.1	5.6
17	6.5	5.8	6.1	5.3	4.7	5.0	8.0	4.5	5.7	5.8	4.8	5.2
18	6.5	5.8	6.2	5.2	4.7	5.0	8.1	4.6	5.8	5.8	4.7	5.2
19	6.5	5.7	6.2	5.4	4.9	5.1	8.0	4.7	5.9	8.5	4.6	5.6
20	6.4	5.9	6.2	5.5	5.1	5.3	8.4	4.7	5.9	8.8	4.5	5.7
21	6.4	6.0	6.2	5.4	5.3	5.3	8.1	4.6	5.5	8.8	4.2	5.5
22	6.3	6.1	6.2	6.7	3.6	5.1	8.3	4.5	5.7	8.4	3.9	5.3
23	6.3	6.0	6.2	5.7	3.4	5.1	8.1	4.5	5.9	9.0	3.9	5.8
24	6.4	5.9	6.2	5.8	4.5	5.2	7.7	4.1	5.5	9.0	4.9	6.4
25	6.1	5.3	5.8	5.7	5.2	5.5	6.9	4.4	5.0	9.4	5.1	7.4
26	6.1	5.6	5.9	5.6	5.2	5.4	8.2	4.0	5.5	9.6	5.6	9.0
27	6.0	4.9	5.6	6.0	5.0	5.4	8.6	4.1	5.0	9.6	5.4	8.4
28	5.8	4.3	5.2	6.4	5.4	5.8	8.4	3.8	5.1	9.9	8.2	9.5
29	5.6	3.0	4.8	6.8	5.4	6.0	8.9	4.0	5.7	9.9	4.9	7.4
30	5.3	4.3	5.0	6.3	5.1	5.7	9.2	4.2	6.1	5.8	4.5	5.2
31	---	---	---	6.4	5.0	5.6	8.7	4.7	6.3	---	---	---
MONTH	6.9	3.0	6.0	6.8	1.9	5.3	9.2	.6	5.3	9.9	3.8	6.0

08049565 TRIGG BRANCH AT DALLAS-FORT WORTH AIRPORT NEAR EULESS, TX

LOCATION.--Lat 32°52'02", long 97°02'20", Tarrant County, Hydrologic Unit 12030102, at left end of upstream headwall of box culvert under International Parkway Road, near south toll booth entrance plaza to Dallas-Fort Worth Airport, 2.0 mi upstream from Bear Creek, and 2.2 mi north of intersection of Airport Freeway (State Highway 183) and International Parkway.

DRAINAGE AREA.--1.73 mi².

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is 516.20 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Several observations of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
May 9	2145	435	3.89	Sept. 2	0815	*491	*4.04

Minimum discharge, no flow on several days in July and August.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.72	.78	.50	.29	.05	.56	.89	3.6	30	.52	.02	27
2	.60	.18	.03	.31	.80	.61	.89	.97	3.8	.55	.00	70
3	.68	.12	.02	.39	12	.66	12	.83	41	.44	12	.31
4	.66	.18	.03	.41	.36	.66	11	.57	1.1	.45	.12	.02
5	.56	.19	.03	.28	19	.94	8.4	1.1	4.4	.28	.02	36
6	.55	.24	.04	.22	2.2	.65	1.2	1.2	.49	.25	.03	112
7	.60	.20	.05	.26	.74	.40	.86	.41	.33	.09	.02	83
8	.78	.32	.05	.24	.09	.43	.48	15	2.1	.07	.08	.08
9	.67	.40	.08	.18	1.4	.47	.32	23	.20	.08	.06	.25
10	.62	.42	4.4	.17	.05	2.1	.42	4.9	.14	.04	.30	.31
11	1.7	.45	2.5	.17	.02	.49	.49	.66	8.4	.07	.07	.17
12	.62	.77	.38	.21	.03	.34	4.8	.49	.09	.00	.00	.17
13	.55	.68	.27	.17	.03	3.3	.21	.44	.20	.03	.06	.25
14	.45	.56	.22	.22	.03	.45	.31	.43	.22	.01	.05	.52
15	.45	27	.33	.28	.03	.09	.58	.22	2.5	.03	.19	.48
16	.45	.11	.33	.28	.04	.14	.52	.06	18	.05	.13	.35
17	3.7	.06	.33	.32	.03	.22	1.4	22	1.1	.03	.42	.28
18	19	1.8	.36	.36	.04	5.2	1.3	1.3	.26	.05	.24	.27
19	33	.23	.35	.31	.05	.46	23	.16	.59	.01	.29	.25
20	1.1	.12	.28	.28	.16	.34	.98	.09	.37	.03	.44	.35
21	1.1	.22	.28	.28	.28	.31	.54	.07	.41	.05	.16	.36
22	.55	.15	.32	.20	.17	.36	.68	.07	.59	1.4	.49	.26
23	.45	.21	.28	.17	.13	.46	.97	.05	.78	.03	.21	.45
24	.45	.17	.28	.17	.27	.72	.41	.95	1.1	.01	.39	.48
25	.36	.25	.17	.11	.46	.72	.46	.06	1.4	.02	.03	.52
26	.36	14	.21	.09	.46	.83	1.1	.02	.98	.01	.03	.56
27	.36	3.6	.28	.09	.48	.90	4.6	.33	.89	.02	1.2	.52
28	.36	.10	.28	.12	.69	.89	.54	.04	.70	.01	.00	2.8
29	.45	.06	.28	.14	---	.87	.53	.07	.78	.01	.00	.56
30	.30	4.7	.32	.09	---	.73	16	.07	.63	.02	.00	1.3
31	.15	---	.36	.11	---	.81	---	22	---	.01	.00	---
TOTAL	72.35	58.27	13.64	6.92	40.09	26.11	95.88	101.16	123.55	4.67	17.05	339.87
MEAN	2.33	1.94	.44	.22	1.43	.84	3.20	3.26	4.12	.15	.55	11.3
MAX	33	27	4.4	.41	19	5.2	23	23	41	1.4	12	112
MIN	.15	.06	.02	.09	.02	.09	.21	.02	.09	.00	.00	.02
AC-FT	144	116	27	14	80	52	190	201	245	9.3	34	674

CAL YR 1985 TOTAL 647.25 MEAN 1.77 MAX 61 MIN .02 AC-FT 1280
WTR YR 1986 TOTAL 899.56 MEAN 2.46 MAX 112 MIN .00 AC-FT 1780

08049580 MOUNTAIN CREEK NEAR VENUS, TX

LOCATION.--Lat 32°29'27", long 97°07'22", Johnson County, Hydrologic Unit 12030102, on right bank 20 ft from Farm Road and at right end of bridge on Farm Road 157, 3 mi upstream from Grassy Creek, 3.2 mi upstream from Reece Branch, 3.6 mi downstream from abandoned Missouri Pacific Railroad bridge, and 3.9 mi north of intersection of U.S. Highway 67, and Farm Road 157 in Venus.

PERIOD OF RECORD.--Chemical and biochemical analyses: December 1985 to June 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
DEC												
11...	1415	11	805	7.70	7.0	50	46	11.2	--	5.1	310	170
JAN												
30...	1400	0.04	910	7.70	8.0	25	14	8.1	--	1.7	360	180
MAR												
06...	1415	0.06	1130	8.00	20.0	15	2.3	11.0	123	1.5	450	270
JUN												
05...	1630	886	290	7.70	24.0	80	190	7.7	94	3.4	120	19

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
DEC											
11...	110	8.4	50	1	6.6	141	230	38	0.5	11	540
JAN											
30...	130	9.4	56	1	5.3	180	260	40	0.5	5.9	620
MAR											
06...	160	12	61	1	5.0	178	370	46	0.8	6.2	770
JUN											
05...	43	2.0	9.2	0.4	5.6	97	30	6.7	0.3	19	170

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)
DEC											
11...	54	17	0.76	0.04	0.80	0.11	0.99	1.1	0.37	6.4	3
JAN											
30...	18	12	--	<0.01	<0.10	0.03	0.67	0.7	0.04	6.9	1
MAR											
06...	8	6	0.66	0.04	0.70	0.09	0.91	1.0	0.03	9.6	--
JUN											
05...	485	72	0.38	0.02	0.40	0.03	1.3	1.3	0.33	19	5

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC											
11...	65	<1	<10	2	49	1	82	0.1	<1	<1	15
JAN											
30...	88	<1	<10	<1	13	1	63	0.1	<1	<1	28
MAR											
06...	--	--	--	--	--	--	--	--	--	--	--
JUN											
05...	34	<1	<10	4	62	<5	3	<0.1	<1	<1	26

08049700 WALNUT CREEK NEAR MANSFIELD, TX

LOCATION.--Lat 32°34'51", long 97°06'06", Tarrant County, Hydrologic Unit 12030102, on right bank at downstream side of bridge on county road, 2.6 mi northeast of Mansfield, 3.3 mi downstream from Texas and New Orleans Railroad Co. bridge, and 10.2 mi upstream from mouth.

DRAINAGE AREA.--62.8 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 531.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated discharges. Records fair. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--26 years, 15.1 ft³/s (3.26 in/yr), 10,940 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,570 ft³/s May 3, 1979 (gage height, 29.7 ft, from floodmark); no flow at times in 1960-74, 1976-86.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Apr. 19	1515	1,380	16.35	June 1	2315	*2,560	*20.37
Apr. 20	0115	856	13.77	June 5	1800	1,250	15.80

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	.17	3.4	.16	.12	.16	.13	.46	410	.20	.04	.03
2	.07	.23	.49	.17	.12	.17	.14	.29	1230	.30	.01	224
3	.03	.15	.27	.17	27	.31	.15	.13	159	.53	.00	14
4	.00	.12	.22	.16	2.4	.21	37	.11	77	.33	.03	.15
5	.00	.18	.32	.17	146	.23	18	.29	601	.26	.03	.09
6	.00	.21	.26	.21	129	.19	1.4	.24	106	.22	.00	3.7
7	.00	.20	.22	.24	2.8	.19	.63	.12	6130	.15	.00	9.4
8	.00	.23	.19	.21	.74	.21	.43	1.0	59	.12	.00	5.5
9	.00	.25	.20	.13	.94	.23	.35	73	54	.11	.00	.13
10	.00	.23	6.7	.14	.67	.28	.65	284	10	.10	.00	.09
11	.00	.20	9.7	.15	.31	.72	.63	9.9	66	.10	.00	.08
12	.00	.20	3.0	.14	.24	.73	1.1	1.5	16	.10	.00	.07
13	.00	.23	1.5	.15	.20	.25	.34	.53	6.0	.09	.00	.06
14	.00	.21	.58	.16	.19	.20	.24	.32	4.2	.09	.00	.05
15	.00	16	.37	.16	.18	.21	.20	.27	3.6	.09	.00	.05
16	.00	2.3	.28	.16	.20	.22	.20	22	3.5	.09	.00	.05
17	1.1	.92	.21	.16	.20	.23	.21	441	20	.08	.00	.04
18	22	.63	.17	.16	.16	.98	.28	30	32	.08	.00	.03
19	138	.46	.16	.15	.23	.25	360	5.9	4.8	.08	.00	.03
20	9.6	.34	.16	.14	.20	.14	153	3.0	2.3	.08	.00	.03
21	.54	.25	.22	.16	.14	.12	3.4	1.4	1.4	.08	.00	.03
22	.17	.20	.25	.13	.13	.12	1.6	.86	.88	4.9	.00	.02
23	.17	.17	.20	.12	.31	.12	.76	.67	.73	.35	.00	.02
24	.10	.18	.16	.13	.36	.12	.49	2.8	.60	.09	.00	.00
25	.07	.18	.15	.15	.32	.11	.44	37	.57	.07	.00	.00
26	.06	.19	.15	.15	.22	.11	.37	1.2	.47	.06	.00	.00
27	.06	3.0	.17	.13	.26	.11	.41	.75	.38	.06	.00	.00
28	.06	.53	.13	.15	.17	.11	.53	.68	.33	.07	.00	.00
29	2.6	.26	.13	.16	---	.11	.21	.60	.26	.05	.00	.00
30	.82	.78	.15	.15	---	.11	.17	.52	.22	.06	.00	.00
31	.30	---	.16	.12	---	.12	---	.47	---	.06	.00	---
TOTAL	175.91	29.20	30.27	4.84	313.81	7.37	583.46	921.01	9000.24	9.05	.11	257.65
MEAN	5.67	.97	.98	.16	11.2	.24	19.4	29.7	300	.29	.00	8.59
MAX	138	16	9.7	.24	146	.98	360	441	6130	4.9	.04	224
MIN	.00	.12	.13	.12	.12	.11	.13	.11	.22	.05	.00	.00
CFSM	.09	.02	.02	.00	.18	.00	.31	.47	4.78	.00	.00	.14
IN.	.10	.02	.02	.00	.19	.00	.35	.55	5.33	.01	.00	.15
AC-FT	349	58	60	9.6	622	15	1160	1830	17850	18	.2	511

CAL YR 1985 TOTAL 4104.39 MEAN 11.2 MAX 2490 MIN .00 CFSM .18 IN. 2.43 AC-FT 8140
WTR YR 1986 TOTAL 11332.92 MEAN 31.0 MAX 6130 MIN .00 CFSM .49 IN. 6.71 AC-FT 22480

08049700 WALNUT CREEK NEAR MANSFIELD, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1985 to July 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
OCT 31...	1415	128	500	7.50	14.5	35	13	7.0	71	2.2	190	77
JAN 31...	1000	0.12	1710	8.00	10.5	10	26	9.6	88	0.5	700	360
MAR 07...	1000	0.2	1650	7.90	11.0	10	4.0	9.5	88	1.0	670	350
JUN 06...	1030	99	400	7.60	24.0	100	63	7.2	88	2.4	160	30
JUL 31...	1100	0.07	890	7.70	26.0	15	4.5	5.6	71	1.0	340	160

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT 31...	64	7.1	25	0.8	5.4	112	110	20	0.3	8.3	310	--
JAN 31...	220	37	120	2	5.3	338	460	130	0.5	12	1200	1
MAR 07...	220	30	110	2	5.0	326	430	120	0.7	10	1100	8
JUN 06...	53	5.9	15	0.5	6.8	127	56	16	0.3	16	250	237
JUL 31...	110	15	46	1	5.8	180	180	45	0.5	8.0	520	7

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
OCT 31...	--	0.28	0.02	0.30	0.24	0.56	0.8	0.20	7.4	1	50
JAN 31...	1	--	<0.01	<0.10	0.05	0.25	0.3	0.03	3.6	<1	91
MAR 07...	2	--	<0.01	<0.10	0.06	0.34	0.4	0.04	5.6	--	--
JUN 06...	40	0.18	0.02	0.20	0.05	1.2	1.2	0.30	16	1	54
JUL 31...	4	--	<0.01	<0.10	0.02	0.68	0.7	0.04	5.8	1	75

DATE	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 31...	<1	<10	1	32	1	26	0.1	<1	<1	<1	<3
JAN 31...	<1	<10	<1	12	1	55	0.1	--	<1	<1	12
MAR 07...	--	--	--	--	--	--	--	--	--	--	--
JUN 06...	<1	<10	3	150	<5	24	<0.1	--	<1	<1	15
JUL 31...	<1	<10	3	8	<5	78	<0.1	--	<1	<1	23

08049800 JOE POOL LAKE NEAR DUNCANVILLE, TX

LOCATION.--Lat 32°38'36", long 97°00'03", Dallas County, Hydrologic Unit 12030102, in control room of outlet works tower located 285 ft upstream from centerline of Joe Pool Dam on Mountain Creek, 0.7 mi downstream from Walnut Creek, 0.7 mi upstream from bridge over Mountain Creek on Camp Wisdom Road, 1.0 mi downstream from John Penn Branch, 5.5 mi west of water towers in downtown Duncanville, 7.1 mi upstream from Mountain Creek Dam on Mountain Creek, and 11.2 mi upstream from mouth.

DRAINAGE AREA.--232 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1985 to September 1986.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Corps of Engineers benchmark).

REMARKS.--The lake is formed by a rolled-earthfill dam 22,360 ft long, including a 50-foot uncontrolled broad-crested concrete spillway. Impoundment of water began Jan. 7, 1986, after closure of the dam was completed in December 1985. The flood-control outlet works consist of a 10.5-foot-diameter conduit that is controlled by two 4.75- x 10.5-foot slide gates. Above elevation 541 ft, water will flow over a 50-foot-long uncontrolled broad-crested concrete spillway located about 0.5 mi to left of the outlet works tower. The low-flow outlet works consist of four 3- x 5-foot slide gates having invert elevations at 486.0, 495.0, 504.0, and 513.0 ft that open to a wet-well. Discharge from the wet-well to the 10.5-foot-diameter conduit is controlled by a 2- x 4-foot gate with invert at elevation 483.0 ft. A low-flow bypass system consisting of a turbine pump and 10-inch-diameter piping is also available for use if needed. The capacity table was provided by the U.S. Army Corps of Engineers. The lake was built for water supply, conservation, and flood-control. During the current year, no water has been diverted for municipal or industrial supply since the initial filling of the reservoir is in progress. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	564.5	-
Crest of spillway	541.0	362,700
Top of conservation pool	522.0	176,900
Lowest gated outlet	466.0	1,095

COOPERATION.--Records provided by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 61,980 acre-ft Sept. 8, 1986 (elevation, 501.92 ft); minimum since initial filling began, 1,595 acre-ft Jan. 24, 1986 (elevation, 467.65 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 61,980 acre-ft Sept. 8 at 0600 hours (elevation, 501.92 ft); minimum, 1,595 acre-ft Jan. 24 at 0800 hours (elevation, 467.65 ft).

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	1600	7930	7800	13420	37840	60450	59300	57840
2	0	0	0	0	1600	7930	7800	13480	43480	60610	59180	60770
3	0	0	0	0	1900	7930	7800	13480	45330	60610	59100	61090
4	0	0	0	0	3950	7880	7800	13480	45840	60490	59020	61010
5	0	0	0	0	3960	7880	8010	13480	52430	60450	58980	61580
6	0	0	0	0	7030	7880	8100	13480	54130	60290	58820	61860
7	0	0	0	2120	7060	7880	8100	13480	54510	60210	58740	61940
8	0	0	0	2120	7060	7880	8100	13420	55150	60130	58620	61980
9	0	0	0	2130	7060	7880	8100	13480	55830	60010	58540	61940
10	0	0	0	2140	7060	7880	8100	16500	56450	59970	58470	61900
11	0	0	0	2100	7930	7880	8100	18940	59220	59850	58430	61820
12	0	0	0	2080	7930	7930	8100	19400	59650	59730	58350	61740
13	0	0	0	2050	7930	7930	8100	19400	59850	59610	58230	61700
14	0	0	0	2030	7930	7930	8100	19400	60010	59490	58150	61620
15	0	0	0	2020	7930	7930	8100	19400	60130	59370	58080	61580
16	0	0	0	2010	7930	7930	8100	19400	60330	59260	57960	61500
17	0	0	0	2010	7930	7930	8100	19500	60770	59100	57880	61420
18	0	0	0	2010	7930	7930	8100	27900	61050	59020	57800	61300
19	0	0	0	2010	7930	7930	8100	29000	61250	58900	57760	61250
20	0	0	0	2000	7930	7930	11720	29000	61300	58860	57650	61170
21	0	0	0	1970	7930	7930	13350	29000	61340	59530	57530	61170
22	0	0	0	1900	7930	7930	13420	29630	61380	59850	57450	61130
23	0	0	0	1610	7930	7930	13420	29630	61340	59810	57410	60290
24	0	0	0	1600	7930	7930	13420	29630	61420	59690	57490	60210
25	0	0	0	1600	7930	7930	13420	32510	61380	59610	57450	60090
26	0	0	0	1600	7930	7930	13420	32920	61300	59530	57340	59970
27	0	0	0	1600	7930	7930	13420	33110	61170	59410	57300	59930
28	0	0	0	1600	7930	7930	13420	33190	61090	59260	57260	59970
29	0	0	0	1600	---	7930	13420	33270	61010	59220	57140	59810
30	0	0	0	1600	---	7800	13420	33330	60650	59140	57020	59770
31	0	---	0	1600	---	7800	---	33470	---	59020	56870	---
MAX	.00	.00	.00	2140	7930	7930	13420	33470	61420	60610	59300	61980
MIN	.00	.00	.00	.00	1600	7800	7800	13420	37840	58860	56870	57840
(†)	.00	.00	.00	467.65	478.70	478.55	483.75	493.55	501.59	501.18	500.63	501.37
(‡)	.00	.00	.00	+1600	+6330	-130	+5620	+20050	+27180	-1630	-2150	+2900

WTR YR 1986 MAX 61980 MIN .00 (†) +59770

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

08049800 JOE POOL LAKE NEAR DUNCANVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January to August, 1986.

323819096584801 - JOE POOL LAKE SITE Ac

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)
JAN 28...	1515	--	861	8.30	14.0	12.6	125	240	110	85
MAY 13...	1000	--	620	7.90	20.0	8.9	100	200	92	71
AUG 27...	1400	1.00	517	--	--	--	--	190	55	67

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
JAN 28...	7.9	72	2	21	130	230	49	0.5	1.9	550
MAY 13...	5.9	44	1	8.2	110	160	19	0.5	0.6	380
AUG 27...	5.4	30	1	11	135	110	14	8.0	7.4	330

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN 28...	6	0.08	0.02	0.10	0.02	0.58	0.6	0.05	7	3
MAY 13...	8	0.56	0.04	0.60	0.03	0.67	0.7	0.05	20	1
AUG 27...	5	--	0.03	<0.10	0.10	0.4	0.5	0.03	6	8

Joe Pool Lake near Duncanville, Texas (08049800)

Phytoplankton Analyses October 1985 to September 1986

Date	1-28-86
Time	1515
TOTAL CELLS/ml	32,769
NUMBER OF SPECIES	52
DEPTH COLLECTED (ft.)	0.5

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
Actinastrum convolutus	1988
Actinastrum hantzschii	1136
Ankistrodesmus braunii	57
Ankistrodesmus falcatus var. acicularis	170
Ankistrodesmus falcatus var. falcatus	57
Ankistrodesmus falcatus var. mirabilis	28
Ankistrodesmus nannoselene	568
Chlorella vulgaris	568
Chlorella sp.	1818
Closterium sp.	57
Dictyosphaerium sp.	170
Dunaliella sp.	57
Franceia sp.	227
Gloeocystis sp.	57
Golenkiniopsis sp.	57
Kirchneriella contorta	738
Mesotaenium sp.	568
Oocystis parva	341
Scenedesmus quadricauda	114
Selenastrum capricornutum	341
CYANOPHYTA (Blue-green algae)	
Aphanocapsa delicatissima	1477
Chroococcus pallidus	397
Chroococcus sp.	2726
Dactylococcopsis fascicularis	1931
Dactylococcopsis sp.	1193
Microcystis marina ?	2613
Oscillatoria angustissima	3067
Oscillatoria limnetica	3465
Synechococcus lineare	1874
Synechocystis sp.	57
EUGLENOPHYTA (Euglenoids)	
Euglena sp.	57
Trachelomonas sp.	114
CRYPTOPHYTA (Cryptomonads)	
Chroomonas sp.	398
Cryptomonas ovata	28
Cryptomonas sp. 1	170
Cryptomonas sp. 2	28
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
Cyclotella comta	7
Cyclotella meneghiniana	7
Cyclotella ocellata	3408
Melosira lirata	85
Melosira sp.	114
Stephanodiscus sp.	7
Order Pennales	
Cymbella minuta	14
Navicula cryptocephala	57
Navicula cuspidata	28
Navicula sp. 1	7
Navicula sp. 2	3
Navicula sp. 3	3
Nitzschia acicularis	3
Nitzschia linearis	3
Nitzschia palea	27
Synedra rumpens	284

Joe Pool Lake near Duncanville, Texas (08049800)

Phytoplankton Analyses October 1985 to September 1986

Date	5-13-86
Time	1001
TOTAL CELLS/mL	31,270
NUMBER OF SPECIES	43
DEPTH COLLECTED (ft.)	7

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Ankistrodesmus convolutus	114
Ankistrodesmus nannoselene	57
Carteria sp.	57
Chlamydomonas pertyi ?	57
Chlamydomonas sp.	114
Chlorococcum sp.	57
Dictyosphaerium pulchellum	454
Gloeocystis sp.	284
Golenkinia radiata	57
Nephrocytium sp.	909
Oocystis lacustris	1590
Phacotus lenticularis	852
Scenedesmus acuminatus	568
Scenedesmus serratus	114
Scenedesmus sp.	454
Schroederia judayi	170
Schroederia setigera	568
Sphaerocystis schroeteri	1363
CYANOPHYTA (blue-green algae)	
Aphanocapsa delicatissima	3408
Aphanocapsa elachista var. conferta	170
Chroococcus varius	57
Dactylococcopsis fascicularis	341
Dactylococcopsis musicola	170
Dactylococcopsis raphidioides	57
Lyngbya limnetica	568
Merismopedia punctata	682
Merismopedia tenuissima	7270
Microcystis marina	6873
Pseudoanabaena sp.	682
CRYPTOPHYTA (cryptomonads)	
Chroomonas sp.	227
Cryptomonas sp.	170
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Cyclotella meneghiniana	96
Cyclotella ocellata	1244
Cyclotella stelligera	263
Melosira sp.	227
Stephanodiscus astrea	568
Stephanodiscus hantzschii	215
Order Pennales	
Diploneis sp.	10
Navicula closterium	57
Navicula filiformis	28
Navicula luzonensis	10
Navicula symmetrica	19
Navicula sp.	19

Joe Pool Lake near Duncanville, Texas (08049800)

Phytoplankton Analyses October 1985 to September 1986

Date	8-27-86
Time	1400
TOTAL CELLS/mL	102,300
NUMBER OF SPECIES	52
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Chlamydomonas sp.	227
Chlorococcum sp.	114
Closterium sp.	57
Cosmarium sp.	114
Gloeocystis gigas	909
Golenkinia radiata	114
Mesotaenium sp.	454
Quadrigula lacustris	227
Scenedesmus bijuga	1136
Scenedesmus dimorphus	227
Scenedesmus quadricauda var. quadrispina	227
Scenedesmus sp.	1363
Tetraedron trigonum var. gracile	341
CYANOPHYTA (blue-green algae)	
Anabaenopsis sp.	15977
Aphanizomenon flos-aquae	9202
Aphanocapsa delicatissima	20902
Aphanocapsa elachista	1590
Aphanothece saxicola	3408
Chroococcus multicoloratus	341
Chroococcus turicensis	1818
Dactylococcopsis acicularis	227
Dactylococcopsis fascicularis	114
Dactylococcopsis musicola	227
Gloeocapsa sp.	682
Lyngbya contorta	1250
Lyngbya limnetica	4317
Lyngbya nana	13405
Merismopedia tenuissima	3408
Oscillatoria planctonia	682
Oscillatoria splendida	1818
Oscillatoria subtilissima	1136
Oscillatoria sp. 1	341
Oscillatoria sp. 2	568
Pseudoanabaena sp.	3976
Raphidiopsis curvata	7043
Spirulina laxissima	682
Synechococcus lineare	114
Synechococcus irregulare	227
Synechococcus sp.	2158
EUGLENOPHYTA (euglenoid algae)	
Trachelomonas schauinslandii	114
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Cyclotella pseudostelligera	14
Cyclotella stelligera	114
Melosira granulata var. angustissima	140
Rhizosolenia eriensis	114
Stephanodiscus sp.	7
Order Pennales	
Anomoeoneis sp.	57
Cymbella microcephala	7
Diploneis sp.	57
Nitzschia acicularis	57
Nitzschia palea	14
Synedra rumpens var. fragilariodes	454
Synedra ulna var. contracta	28

08049900 MOUNTAIN CREEK NEAR DUNCANVILLE, TX

LOCATION.--Lat 32°39'43", long 96°58'56", Dallas County, Hydrologic Unit 12030102, at downstream side of bridge on Farm Road 1382, 2.3 mi downstream from Walnut Creek, 4.5 mi west of Duncanville, and 5.5 mi upstream from Mountain Creek Lake Dam.

DRAINAGE AREA.--225 mi².

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Elevation records good except those for Oct. 1-18, Dec. 24 to Jan. 5, and July 14 to Aug. 1, which are fair. This station is used to aid in the operation of Mountain Creek Lake. Joe Pool Dam, located about 2 miles upstream, has been under construction and was essentially completed at the end of the 1985 water year. Deliberate impoundment began Jan. 7, 1986. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 469.83 ft Apr. 19, 1976; channel dry at times June 16 to Sept. 28, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 460.87 ft June 1 at 1945 hours; minimum, 456.18 ft Oct. 3-2.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	456.18	457.33	457.71	457.62	456.99	457.00	456.51	457.15	460.13	456.70	457.01	456.98
2	456.18	457.29	457.61	457.62	456.99	456.99	456.51	457.12	458.07	456.75	457.01	458.24
3	456.19	457.27	457.52	457.62	457.55	456.98	456.51	457.08	457.85	456.78	457.02	457.49
4	456.19	457.24	457.49	457.62	457.40	457.00	456.63	457.05	457.29	456.82	457.05	457.21
5	456.19	457.24	457.46	457.62	457.97	456.98	456.71	457.03	458.03	456.85	457.05	457.64
6	456.19	457.24	457.46	457.59	457.55	456.97	456.72	457.02	457.32	456.88	457.05	457.24
7	456.20	457.25	457.46	457.46	457.40	456.95	456.71	457.03	457.22	456.91	457.05	457.37
8	456.20	457.30	457.50	457.37	457.32	456.95	456.69	457.10	457.73	456.93	457.05	457.13
9	456.21	457.33	457.50	457.33	457.33	456.94	456.67	457.85	457.27	456.95	457.05	457.05
10	456.21	457.34	457.81	457.30	457.30	456.93	456.66	457.56	457.16	456.95	457.05	457.00
11	456.22	457.35	459.57	457.27	457.24	456.96	456.65	457.19	457.36	456.95	457.10	457.31
12	456.22	457.36	459.36	457.24	457.20	456.96	456.70	457.16	457.19	456.95	457.10	457.21
13	456.23	457.37	459.2[illegible]	457.22	457.18	456.96	456.70	457.13	457.14	456.94	457.10	457.15
14	456.23	457.39	458.98	457.19	457.15	456.95	456.69	457.18	457.11	456.88	457.08	457.12
15	456.23	457.46	458.64	457.18	457.13	456.94	456.66	457.21	457.10	456.85	457.07	457.10
16	456.23	457.73	458.43	457.16	457.12	456.93	456.65	457.15	457.08	456.83	457.07	457.14
17	456.23	457.61	458.19	457.33	457.10	456.92	456.65	459.11	457.10	456.82	457.07	457.16
18	456.23	457.59	457.89	457.30	457.09	456.95	456.66	457.57	457.06	456.85	457.07	457.17
19	458.94	457.49	457.78	457.27	457.07	456.93	458.70	457.25	457.04	456.87	457.06	457.18
20	459.99	457.44	457.73	457.24	457.05	456.91	457.47	457.19	457.00	456.90	457.05	457.19
21	459.74	457.42	457.67	457.22	457.04	456.86	457.32	457.15	456.96	456.95	457.05	457.20
22	459.15	457.41	457.62	457.19	457.03	456.81	457.22	457.11	456.92	457.05	457.03	457.40
23	458.40	457.43	457.62	457.18	457.01	456.77	457.15	457.08	456.90	456.99	457.00	457.20
24	457.83	457.42	457.62	457.16	456.99	456.72	457.12	457.21	456.89	456.94	457.01	457.20
25	457.51	457.43	457.62	457.07	456.99	456.67	457.11	457.17	456.87	456.90	457.00	457.19
26	457.41	457.50	457.62	457.05	456.97	456.51	457.08	457.11	456.85	456.89	456.95	457.19
27	457.31	458.26	457.62	457.03	456.95	456.56	457.09	457.16	456.81	456.90	456.93	457.16
28	457.26	458.38	457.62	457.02	457.01	456.52	457.07	457.20	456.79	456.90	456.90	457.12
29	457.30	457.93	457.62	457.01	---	456.52	457.05	457.11	456.75	456.92	456.87	457.08
30	457.36	457.79	457.62	457.00	---	456.52	457.14	457.06	456.72	456.96	456.84	457.07
31	457.34	---	457.62	457.00	---	456.51	---	458.01	---	457.00	456.81	---
MAX	459.99	458.38	459.57	457.62	457.97	457.00	458.70	459.11	460.13	457.05	457.10	458.24
MIN	456.18	457.24	457.46	457.00	456.95	456.51	456.51	457.02	456.72	456.70	456.81	456.98
(†)	457.34	457.79	457.62	457.00	457.01	456.51	457.14	458.01	456.72	457.00	456.81	457.07

CAL YR 1985 MAX 462.04 MIN 456.18
WTR YR 1986 MAX 460.13 MIN 456.18

(†) Elevation at end of month.

08050050 MOUNTAIN CREEK LAKE NEAR GRAND PRAIRIE, TX

LOCATION.--Lat 32°43'55", long 96°56'35", Dallas County, Hydrologic Unit 12030102, at right end of spillway in Mountain Creek Dam on Mountain Creek, 2.5 mi upstream from Texas and Pacific Railway Co. bridge, and 3.7 mi southeast of Grand Prairie.

DRAINAGE AREA.--295 mi^2.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 21, 1960, nonrecording gage at powerplant at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 5,800 ft long, including a controlled spillway six 34- by 27-foot tainter gates. The dam was completed in December 1936 and deliberate impoundment began on Mar. 24, 1937. The lake was built and is operated by Dallas Power and Light Co. to supply cooling water for their generating plant. The capacity curve is based on a survey made in 1963. For statement regarding regulation by Joe Pool Dam, see station 08049900. Figures given herein represent total contents. Gage-height telemeter at station. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	467.0	-
Top of gates	458.0	25,720
Top of dry weather conservation pool	457.0	22,840
Top of wet weather conservation pool	456.0	20,260
Crest of spillway (sill of tainter gates)	431.0	0

COOPERATION.--The capacity curve was provided by the Dallas Power and Light Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 27,440 acre-ft Mar. 27, 1977 (elevation, 458.52 ft); minimum, 14,120 acre-ft Oct. 18, 1972 (elevation, 453.25 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 25,580 acre-ft June 1 at 2000 hours (elevation, 457.95 ft); minimum, 18,220 acre-ft Oct. 9-10, 17 (elevation, 455.14 ft).

Capacity table (elevation, in feet, and contents, in acre-feet)

455.0	17,890	457.0	22,840
456.0	20,260	458.0	25,720

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18510	22320	22500	23470	23130	23470	22760	23300	24510	22810	22140	21270
2	18480	22320	22530	23470	23160	23420	22630	23300	23700	23440	22010	23930
3	18480	22320	22610	23470	23760	23420	22710	23240	23440	23470	22040	23880
4	18360	22320	22610	23420	23330	23420	23330	23240	23650	23390	21990	22760
5	18360	22320	22630	23470	24020	23330	23680	23240	23390	23270	21940	22900
6	18320	22220	22660	23440	24050	23330	23700	23160	23650	23190	21830	22980
7	18340	22220	22660	23360	23590	23330	23700	23100	23730	23130	21890	23420
8	18250	22350	22690	23360	23560	23390	23530	23240	23820	23040	21680	23470
9	18220	22320	22740	23420	23620	23560	23530	23850	23730	22980	21600	23560
10	18270	22140	22980	23420	23650	23210	23530	23700	23680	22870	22070	23360
11	18360	22200	23070	23440	23680	23300	23500	23760	23590	22760	22140	23300
12	18340	22220	23530	23420	23680	23270	23730	23760	23620	22630	22090	23270
13	18320	22220	23820	23470	23730	23240	23820	23730	23590	22530	22010	23240
14	18270	22270	23300	23420	23680	23210	23680	23650	23530	22480	21940	23190
15	18270	22760	23470	23470	23820	23190	23620	23590	23470	22400	21830	23130
16	18250	22870	23650	23420	23700	23190	23560	23590	23530	22270	21780	23070
17	18340	23010	23790	23420	23700	23210	23590	23650	23650	22220	21760	23010
18	18860	22610	23190	23420	23700	23210	23590	24020	23590	22120	21650	22960
19	20070	22450	23270	23420	23700	23160	23990	24050	23270	22070	21600	22870
20	20410	22480	23300	23590	23590	23130	23270	24080	23270	21990	21520	22810
21	20850	22500	23360	23330	23590	23100	23240	24080	23210	22350	21420	22760
22	21320	22530	23390	23300	23620	23100	23240	24110	23160	22840	21340	22740
23	21630	22480	23390	23300	23590	23010	23240	23990	23240	22840	21270	22690
24	21760	22480	23330	23240	23590	22980	23240	24050	23330	22790	21400	22660
25	21810	22630	23390	23210	23620	22960	23190	23700	23330	22710	21320	22610
26	21830	22790	23390	23130	23590	22900	23160	23700	23270	22630	21240	22480
27	21810	22930	23420	23190	23420	22900	23130	23700	23210	22560	21140	22430
28	21700	23040	23420	23210	23440	22900	23100	23700	23100	22450	21140	22480
29	22120	23190	23470	23100	---	22840	23130	23650	23040	22430	21030	22480
30	22270	22530	23500	23070	---	22810	23240	23620	22930	22320	20930	22400
31	22320	---	23440	23130	---	22810	---	24220	---	22200	20880	---
MAX	22320	23190	23820	23590	24050	23560	23990	24220	24510	23470	22140	23930
MIN	18220	22140	22500	23070	23130	22810	22630	23100	22930	21990	20880	21270
(†)	456.80	456.88	457.21	457.10	457.21	456.99	457.14	457.48	457.03	456.75	456.24	456.83
(◆)	+3790	+210	+910	-310	+310	-630	+430	+980	-1290	-730	-1320	+1520

CAL YR 1985	MAX	23850	MIN	18220	(◆)	+960
WTR YR 1986	MAX	24510	MIN	18220	(◆)	+3870

(†) Elevation, in feet, at end of month.
(◆) Change in contents, in acre-feet.

08050100 MOUNTAIN CREEK AT GRAND PRAIRIE, TX

LOCATION.--Lat 32°44'52", long 96°55'33", Dallas County, Hydrologic Unit 12030102, on right bank at downstream side of downstream bridge on Jefferson Street, 1,000 ft upstream from bridge on U.S. Highway 80, 1.2 mi upstream from Texas and Pacific Railroad Co. bridge, 1.5 mi downstream from Mountain Creek Lake Dam, and 4.4 mi east of Grand Prairie.

DRAINAGE AREA.--298 mi².

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 404.31 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 19, 1984, at datum 3.0 ft higher.

REMARKS.--Estimated daily discharges: May 18-23 and June 2-9. Records good except those for estimated daily discharges, which are poor. Flow regulated by Mountain Creek Lake (station 08050050), 1.5 mi upstream. Several observations of water temperature were made during the year. Gage-height telemeters at station.

AVERAGE DISCHARGE.--26 years, 96.9 ft³/s (70,200 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,100 ft³/s Apr. 19, 1976 (gage height, 24.21 ft); maximum gage height, 24.62 ft May 7, 1969; no flow in 1964, 1972-74.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,300 ft³/s June 2 at 0330 hours (gage height, 21.55 ft); minimum daily, 0.16 ft³/s Oct. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.9	5.3	.44	.72	.81	.54	2.0	3460	.67	1.0	2.1
2	.95	2.1	2.2	.40	.70	1.2	.41	1.5	1490	12	.96	89
3	.72	1.8	1.9	.40	2.7	.81	.77	1.0	400	4.0	1.0	162
4	.52	1.3	1.5	.41	181	.67	3.2	.95	10	2.3	1.2	549
5	.32	1.3	1.1	.29	217	.86	4.6	.99	162	1.7	.98	5.9
6	.27	1.1	.93	.65	272	.78	1.1	1.6	4.0	1.3	.74	3.2
7	.36	.92	.95	.85	222	.69	.61	1.4	1.5	.76	.72	12
8	.36	1.0	.95	.44	3.7	.78	.63	1.3	2.5	.56	.72	4.1
9	.28	1.7	.87	.44	2.4	4.2	.26	3.5	275	.48	.61	2.4
10	.32	1.7	2.3	.41	2.5	4.3	.29	667	34	.49	2.8	2.0
11	.34	.88	130	.39	1.4	1.1	.45	3.4	162	.65	2.8	2.2
12	.38	1.0	3.5	.38	1.5	1.4	2.4	1.3	2.7	1.5	1.1	1.6
13	.22	1.0	1.9	.34	1.6	.98	1.0	.74	1.5	1.2	.87	1.3
14	.16	.73	347	.36	2.4	.95	1.5	.79	1.1	.63	.79	1.2
15	.19	3.5	4.8	.31	1.3	.95	.57	2.1	1.0	.43	.69	1.1
16	.19	2.8	1.1	.38	2.4	.73	.38	1.5	1.5	.41	.66	1.0
17	.35	2.4	.98	.44	1.3	.61	.82	1580	4.2	.46	.63	.93
18	1.6	243	252	.40	.90	1.6	.93	10	1.7	.43	.51	1.0
19	7.3	3.7	1.0	.30	.83	1.4	658	2.0	95	.41	.45	.83
20	2.5	2.2	.75	.27	.82	.66	822	1.5	3.0	.41	.59	.83
21	.72	2.0	.65	.85	.81	.56	3.0	2.0	1.2	.40	.67	.83
22	.38	1.7	.62	.67	1.0	.57	2.3	2.0	.88	.83	.82	.80
23	.35	1.5	.62	.43	1.5	1.1	1.9	3.6	.87	.78	.84	.75
24	.38	1.2	.55	.42	1.6	.88	1.9	1.7	1.8	.54	3.1	.74
25	.25	1.2	.40	.44	1.1	.74	1.7	319	1.3	.47	3.9	1.1
26	.32	1.8	1.2	.44	.76	1.0	1.6	3.4	.81	.45	1.2	.86
27	.33	5.7	.94	.37	.52	.63	1.9	1.7	.76	.44	.87	.73
28	2.0	2.6	.47	1.1	.57	.49	1.8	1.3	.73	.49	.87	.74
29	6.6	2.1	.44	.81	---	.31	1.3	.97	.58	.47	1.1	.80
30	4.1	355	.44	.52	---	.35	1.3	.74	.50	2.8	1.2	.91
31	2.4	---	.61	.59	---	.40	---	375	---	1.4	1.1	---
TOTAL	36.36	650.83	767.97	14.94	927.03	32.51	1519.16	2995.98	6122.13	39.86	35.49	851.95
MEAN	1.17	21.7	24.8	.48	33.1	1.05	50.6	96.6	204	1.29	1.14	28.4
MAX	7.3	355	347	1.1	272	4.3	822	1580	3460	12	3.9	549
MIN	.16	.73	.40	.27	.52	.31	.26	.74	.50	.40	.45	.73
AC-FT	72	1290	1520	30	1840	64	3010	5940	12140	79	70	1690

CAL YR 1985 TOTAL 39139.61 MEAN 107 MAX 3900 MIN .05 AC-FT 77630
WTR YR 1986 TOTAL 13994.21 MEAN 38.3 MAX 3460 MIN .16 AC-FT 27760

08050800 TIMBER CREEK NEAR COLLINSVILLE, TX

LOCATION.--Lat 33°33'16", long 96°56'49", Cooke County, Hydrologic Unit 12030103, on left bank 13 ft to the left of bridge on Farm Road 902 and 19 ft downstream from the centerline of the raod, 2.1 mi west of Collinsville, and 3.0 mi upstream from mouth.

DRAINAGE AREA.--38.8 mi^2.

PERIOD OF RECORD.--August 1985 to September 1986.

GAGE.--Water-stage recorder. Datum of gage is 640.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 18 to Feb. 3. Records fair except those for estimated daily discharges, which are poor. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum dishcarge, 1,600 ft^3/s Apr. 4, 1986 (gage height, 13.28 ft).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in October 1981 reached a peak stage of 15.0 ft, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,600 ft^3/s Apr. 4 at 0200 hours (gage height 13.28 ft), from rating curve extended above on basis of velocity-area study.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	4.4	13	.74	.54	1.4	2.7	753	61	1.5	.00	.00
2	.00	3.2	6.0	.72	.54	1.5	3.0	192	74	1.3	.00	.00
3	.00	2.7	3.5	.69	110	1.6	137	35	206	1.2	.00	.00
4	.00	2.5	3.0	.66	35	1.5	863	25	339	1.1	.00	.00
5	.00	2.3	2.4	.64	84	1.4	46	20	727	.84	.00	39
6	.00	2.1	2.1	.63	543	1.3	23	17	62	.49	.00	91
7	.00	2.0	1.9	.62	41	1.3	15	14	32	.14	.00	405
8	.00	2.0	1.8	.61	23	.93	10	17	24	.00	.00	9.4
9	.00	1.9	1.7	.61	15	1.1	7.1	19	21	.00	.00	3.1
10	.00	1.9	1.6	.60	11	2.9	5.2	406	18	.00	.00	1.1
11	.00	1.8	1.6	.60	8.3	4.2	4.7	55	35	.00	.00	.35
12	.00	1.8	1.5	.60	6.8	5.3	4.5	34	24	.00	.00	.00
13	.00	1.7	1.5	.59	6.1	4.2	4.1	27	17	.00	.00	.00
14	.00	1.6	1.5	.59	5.9	3.5	3.3	21	12	.00	.00	.00
15	.00	1.6	1.4	.59	4.8	2.6	2.4	110	190	.00	.00	.00
16	.00	1.5	1.4	.59	4.6	2.0	1.9	43	249	.00	.00	.00
17	.00	1.4	1.3	.58	4.5	2.0	1.9	548	316	.00	.00	.00
18	30	280	1.3	.58	3.9	11	2.3	789	28	.00	.00	.00
19	460	40	1.3	.58	3.4	8.8	143	347	22	.00	.00	.00
20	22	10	1.3	.57	3.0	2.9	544	44	19	.00	.00	.00
21	8.0	7.5	1.2	.57	2.5	2.0	33	34	14	.00	.00	.00
22	5.0	5.0	1.2	.57	2.2	1.7	16	27	15	.00	.00	.00
23	3.8	3.5	1.1	.57	2.2	1.9	10	24	10	.00	.00	.00
24	3.5	3.0	1.1	.56	2.2	2.1	7.8	63	8.3	.00	.00	.00
25	3.2	2.8	1.0	.56	2.1	2.0	6.3	124	7.4	.00	.00	.00
26	2.9	410	1.0	.56	2.0	2.0	4.9	33	6.6	.00	.00	.00
27	2.7	120	.95	.56	2.0	2.2	4.5	30	5.0	.00	.00	.00
28	2.5	20	.90	.55	1.6	2.2	4.3	27	3.7	.00	.00	.00
29	350	9.0	.85	.55	---	2.2	4.0	21	2.7	.00	.00	.00
30	150	5.5	.80	.55	---	2.3	9.8	18	1.9	.00	.00	.00
31	14	---	.77	.55	---	2.4	---	29	---	.00	.00	---
TOTAL	1057.60	952.7	61.97	18.54	931.18	84.43	1924.7	3946	2550.6	6.57	.00	548.95
MEAN	34.1	31.8	2.00	.60	33.3	2.72	64.2	127	85.0	.21	.00	18.3
MAX	460	410	13	.74	543	11	863	789	727	1.5	.00	405
MIN	.00	1.4	.77	.55	.54	.93	1.9	14	1.9	.00	.00	.00
AC-FT	-	-	-	-	-	-	-	-	-	-	-	-

CAL YR 1985 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1986 TOTAL 12083.24 MEAN 33.1 MAX 863 MIN .00 AC-FT -

08051130 ELM FORK TRINITY RIVER NEAR PILOT POINT, TX

LOCATION.--Lat 33°21'01", long 97°02'49", Denton County, Hydrologic Unit 12030103, on right bank of excavated outlet channel 1,600 ft downstream from center line of Ray Roberts Dam on Elm Fork Trinity River, 3.3 mi upstream from Bray Branch, 4.9 mi upstream from Farm Road 428 bridge, and 5.7 mi southwest of town square in Pilot Point.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--692 mi².

PERIOD OF RECORD.--July 1985 to September 1986. From February 1981 to Septmber 1984 a partial-record crest-stage gage and low-water staff gage were located at site about 0.8 mi downstream from present site at datum 526.26 ft lower than present datum.

GAGE.--Water-stage recorder. Datum of gage is 526.26 ft above National Geodetic Vertical Datum of 1929. Prior to July of 1985, nonrecording staff and crest-stage gages were in place.

REMARKS.--No estimated daily discharges. Records good. During the year, all flow was directed through the outlet structure of Ray Roberts Dam. Though dam closure was not complete until May of 1986, the lake area was used as a temporary holding basin as construction of the dam continued. Except for the period July 28 to Sept. 4 when the gates were being tested, flow through the outlet structure was not controlled.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,290 ft³/s Oct. 21, 1985 (gage height, 15.75 ft); minimum daily, 2.6 ft³/s Aug. 29, 1986.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1900, 183,000 ft³/s in October 1981 from discontinued gages 5.0 mi upstream on Elm Fork Trinity River and 6.3 mi upstream on Isle du Bois Creek. The crest-stage gage then in use recorded an elevation of 566.32 ft (gage height to current datum 40.06 ft) for that flood.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,290 ft³/s Oct. 21 at 0315 hours (gage height, 15.75 ft); minimum daily, 2.6 ft³/s Aug. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	932	129	25	20	48	27	642	860	100	3.0	6.8
2	12	723	151	24	35	46	26	948	1270	82	4.0	5.1
3	11	537	165	24	1010	43	28	894	1230	70	5.1	4.1
4	11	388	154	24	2440	41	1150	805	1240	58	5.8	4.3
5	10	265	130	23	2200	38	2020	700	1870	49	5.7	183
6	9.4	183	106	22	2140	36	2090	600	2490	44	5.7	719
7	8.4	125	87	22	2110	34	1800	505	2500	40	6.0	840
8	7.8	88	73	22	1810	34	1490	418	2370	36	7.0	883
9	7.8	67	63	22	1750	33	1220	421	2370	32	8.9	748
10	7.8	55	56	22	1660	34	989	1210	2220	29	9.1	552
11	8.7	45	52	22	1900	39	802	1120	2130	26	10	393
12	9.2	39	51	22	1950	54	633	1080	2160	24	12	270
13	11	36	51	22	1620	89	480	980	2100	22	12	183
14	16	33	51	22	1320	107	365	830	1880	22	12	133
15	20	35	50	22	1070	96	263	707	1650	20	12	95
16	22	44	47	24	881	79	182	625	1460	19	12	66
17	24	58	44	24	711	63	127	732	1470	18	11	48
18	632	65	41	24	547	61	96	1330	1400	16	11	37
19	2670	258	39	25	415	78	112	1500	1220	15	11	29
20	3230	319	37	24	311	96	559	1870	1030	15	11	25
21	2950	269	35	23	223	91	682	1810	859	14	13	21
22	2790	190	34	23	160	73	615	1520	724	13	12	19
23	2790	130	33	23	118	60	662	1270	562	13	11	17
24	2510	92	32	23	92	51	801	1070	441	12	10	15
25	2280	71	30	23	75	44	628	1060	379	12	7.4	15
26	2070	64	29	21	66	41	475	1010	370	11	3.3	14
27	1760	86	29	21	58	38	364	890	306	11	2.8	16
28	1530	106	28	21	51	35	275	754	233	10	2.8	21
29	1380	114	27	21	---	31	197	616	172	6.9	2.6	25
30	1240	119	26	20	---	29	170	490	130	3.2	2.9	25
31	1150	---	26	20	---	28	---	394	---	2.9	3.1	---
TOTAL	29190.1	5536	1906	700	26743	1670	19328	28801	39096	846.0	245.2	5412.3
MEAN	942	185	61.5	22.6	955	53.9	644	929	1303	27.3	7.91	180
MAX	3230	932	165	25	2440	107	2090	1870	2500	100	13	883
MIN	7.8	33	26	20	20	28	26	394	130	2.9	2.6	4.1
AC-FT	-	-	-	-	-	-	-	-	-	-	-	-

CAL YR 1985 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1986 TOTAL 159473.6 MEAN 437 MAX 3230 MIN 2.6 AC-FT -

08051130 ELM FORK TRINITY RIVER NEAR PILOT POINT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: December 1985 to September 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
DEC 04...	1700	151	581	7.90	6.5	50	31	12.3	--	2.1	200	45
JAN 16...	1000	23	715	8.40	8.0	10	10	14.2	--	4.1	250	3
APR 16...	1630	179	455	7.80	20.0	50	120	9.7	107	2.1	160	21
JUN 06...	1300	2480	255	7.60	23.0	100	70	8.6	102	2.2	94	11
JUL 24...	1030	13	619	7.90	29.0	25	34	10.2	--	4.6	210	0
SEP 12...	0930	263	285	7.40	24.5	80	180	7.1	86	1.9	99	11

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
DEC 04...	66	7.4	42	1	5.1	150	44	62	0.2	12	330
JAN 16...	86	8.0	57	2	3.4	245	57	60	0.2	1.2	420
APR 16...	55	5.3	27	1	4.3	138	26	37	0.2	8.7	250
JUN 06...	33	2.9	12	0.6	5.8	83	16	16	0.2	11	150
JUL 24...	71	8.5	57	2	3.7	223	51	51	0.2	11	390
SEP 12...	34	3.5	18	0.8	4.8	88	22	20	0.3	9.9	170

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DISSOLVED (UG/L AS AS)
DEC 04...	46	15	1.06	0.04	1.10	0.19	0.81	1.0	0.19	8.7	1
JAN 16...	16	9	1.27	0.03	1.30	0.04	1.1	1.1	0.38	--	--
APR 16...	150	22	0.68	0.12	0.80	0.33	0.97	1.3	0.14	9.7	1
JUN 06...	63	17	0.55	0.05	0.60	0.07	1.0	1.1	0.27	11	--
JUL 24...	48	7	0.54	0.06	0.60	0.07	1.2	1.3	0.13	9.4	2
SEP 12...	124	15	0.99	0.21	1.20	0.21	0.59	0.8	0.25	11	--

DATE	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
DEC 04...	79	4	<10	3	300	1	120	0.1	<1	<1	88
JAN 16...	--	--	--	--	--	--	--	--	--	--	--
APR 16...	71	<1	<10	3	47	<1	110	<0.1	1	<1	7
JUN 06...	--	--	--	--	--	--	--	--	--	--	--
JUL 24...	99	<1	<10	1	8	<5	75	<0.1	1	<1	9
SEP 12...	--	--	--	--	--	--	--	--	--	--	--

08051500 CLEAR CREEK NEAR SANGER, TX

LOCATION.--Lat 33°20'21", long 97°10'51", Denton County, Hydrologic Unit 12030103, at the downstream side of left abutment of main channel bridge on Interstate Highway 35,600 ft downstream from Duck Creek, 1.3 mi upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, and 1.7 mi south of Sanger.

DRAINAGE AREA.--295 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1949 to current year.
Water-quality records.--Specific conductance, water temperature, and sediment records: May 1968 to September 1976.

REVISED RECORDS.--WSP 1512: 1950, 1955. WSP 1922: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 582.23 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Apr. 18, 1975, water-stage recorder at site 950 ft downstream at datum 5.00 ft higher.

REMARKS.--Estimated daily discharges: Nov. 19 to Dec. 5. Records good except for estimated daily discharges, which are poor. No appreciable diversion above station. Flow is affected at times by discharge from the flood-detention pools of 51 floodwater-retarding structures with a combined detention capacity of 38,850 acre-ft. These structures control runoff from 149 mi² in the Clear Creek watershed. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--31 years (water years 1950-80) prior to regulation, 74.3 ft³/s (53,830 acre-ft/yr); 6 years (water years 1981-86) after completion of floodwater retarding structures, 140 ft³/s (101,400 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 104,000 ft³/s Oct. 13, 1981 (gage height, 35.70 ft, site and datum then in use); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1880, 36.5 ft in May 1908, from information by Gulf, Colorado, and Santa Fe Railway Co. Flood in May 1935 reached a stage of 34.0 ft, from information by State Department of Highways and Public Transportation. Both peaks now referenced to present site and datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s and maximum(*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 18	1930	3,560	19.90	June 2	0730	*5,020	23.42
Apr. 4	0515	3,490	19.71	June 5	0800	4,060	21.16
May 10	0845	4,600	22.44				

Minimum discharge, 0.15 ft³/s Oct. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	25	65	22	15	32	21	487	538	44	1.9	86
2	13	25	73	20	38	28	20	247	2620	42	1.6	67
3	3.0	28	74	18	767	23	120	124	1020	39	9.2	22
4	3.0	25	66	17	254	20	1820	85	824	44	27	28
5	.79	21	52	17	262	18	660	63	2560	42	7.8	1500
6	.55	18	41	15	581	18	385	52	1140	40	5.4	1160
7	1.3	26	35	15	262	18	205	43	823	38	4.0	631
8	.22	23	30	15	185	18	113	39	751	31	4.6	355
9	.15	21	29	14	134	18	81	493	752	29	9.3	217
10	.62	19	29	15	95	22	62	2990	483	27	11	161
11	.29	18	29	15	75	27	56	1170	1320	22	14	94
12	3.0	19	31	14	65	50	54	668	739	22	18	61
13	5.5	20	30	15	59	47	50	473	358	20	17	37
14	7.8	21	26	15	56	40	42	357	238	18	13	29
15	32	38	26	15	51	31	35	226	293	17	11	25
16	23	30	27	15	48	26	31	161	420	15	10	22
17	12	41	24	15	47	24	29	833	344	13	12	18
18	1410	54	23	17	43	39	31	1260	230	11	16	16
19	1730	204	22	17	37	44	184	714	177	9.5	11	14
20	995	243	20	17	35	32	646	360	147	8.8	1.6	13
21	510	200	20	18	30	26	254	225	124	8.2	1.3	14
22	332	136	21	18	27	23	144	155	106	7.7	1.1	12
23	209	91	21	16	27	22	96	112	92	8.4	.91	12
24	176	63	21	17	26	21	70	138	181	7.6	.79	9.8
25	112	46	18	17	24	21	58	179	128	6.8	.79	10
26	74	40	16	15	24	21	50	185	87	5.8	1.6	10
27	47	52	15	16	23	21	46	163	68	4.4	1.8	9.1
28	31	62	17	16	23	20	48	146	62	3.8	1.4	8.7
29	35	64	21	15	---	20	42	103	59	3.5	.99	10
30	32	62	23	16	---	21	43	81	54	2.9	.89	10
31	29	---	23	16	---	21	---	102	---	2.4	.98	---
TOTAL	5843.22	1735	968	503	3313	812	5498	12434	16738	593.8	217.95	4661.6
MEAN	188	57.8	31.2	16.2	118	26.2	183	401	558	19.2	7.03	155
MAX	1730	243	74	22	767	50	1820	2990	2620	44	27	1500
MIN	.15	18	15	14	15	18	20	39	54	2.4	.79	8.7
AC-FT	11590	3440	1920	998	6570	1610	10910	24660	33200	1180	432	9250

CAL YR 1985 TOTAL 40905.45 MEAN 112 MAX 2060 MIN .00 AC-FT 81140
WTR YR 1986 TOTAL 53317.57 MEAN 146 MAX 2990 MIN .15 AC-FT 105800

08051500 CLEAR CREEK NEAR SANGER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1984 to September 1985. Sediment analyses: February 1966 to May 1977.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1969 to August 1977.
WATER TEMPERATURES: May 1968 to August 1977.
SUSPENDED SEDIMENT DISCHARGE: May 1968 to August 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (1972-77): Maximum daily, 1,920 microsiemens Oct. 12, 1976; minimum daily, 182 microsiemens July 29, 1973.
WATER TEMPERATURES (1968-70, 1972-77): Maximum daily, 39.0°C June 8, 1969; minimum daily, 0.0°C Jan. 9, 1970.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 7,370 mg/L May 12, 1972; minimum, no flow on many days.
SEDIMENT LOADS: Maximum daily, 79,000 tons May 7, 1969; minimum daily, 0 tons on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)
DEC											
10...	1615	29	546	7.70	10.5	15	10	9.6	88	1.5	240
JAN											
16...	1600	15	736	8.20	10.0	--	--	12.8	118	1.8	280
FEB											
03...	1150	--	--	--	--	--	--	--	--	--	--
03...	1325	--	--	--	--	--	--	--	--	--	--
03...	1500	--	--	--	--	--	--	--	--	--	--
04...	1715	--	--	--	--	--	--	--	--	--	--
APR											
17...	1200	28	750	8.10	17.0	10	2.4	10.0	106	0.6	270
MAY											
01...	0300	--	--	--	--	--	--	--	--	--	--
01...	0400	--	--	--	--	--	--	--	--	--	--
01...	0500	--	--	--	--	--	--	--	--	--	--
09...	2100	--	--	--	--	--	--	--	--	--	--
09...	2200	--	--	--	--	--	--	--	--	--	--
09...	2400	--	--	--	--	--	--	--	--	--	--
10...	0200	--	--	--	--	--	--	--	--	--	--
10...	0400	--	--	--	--	--	--	--	--	--	--
10...	0700	--	--	--	--	--	--	--	--	--	--
10...	1000	--	--	--	--	--	--	--	--	--	--
10...	1700	--	--	--	--	--	--	--	--	--	--
10...	2300	--	--	--	--	--	--	--	--	--	--
11...	0100	--	--	--	--	--	--	--	--	--	--
11...	0500	--	--	--	--	--	--	--	--	--	--
11...	1100	--	--	--	--	--	--	--	--	--	--
17...	0800	--	--	--	--	--	--	--	--	--	--
17...	0900	--	--	--	--	--	--	--	--	--	--
17...	1000	--	--	--	--	--	--	--	--	--	--
19...	1700	--	--	--	--	--	--	--	--	--	--
19...	2300	--	--	--	--	--	--	--	--	--	--
JUN											
06...	1820	1050	300	7.90	25.5	60	170	7.4	93	2.0	130
JUL											
24...	1330	7.6	1020	7.70	30.0	10	3.0	8.6	--	1.2	300
SEP											
12...	1430	54	390	8.10	25.0	27	12	8.3	101	1.8	170

08051500 CLEAR CREEK NEAR SANGER, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
DEC											
10...	0	83	7.7	31	0.9	2.8	248	29	38	0.3	9.8
JAN											
16...	60	91	14	52	1	1.8	225	55	86	0.3	6.8
FEB											
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
APR											
17...	53	91	9.4	47	1	2.4	213	48	81	0.3	7.6
MAY											
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
JUN											
06...	4	48	3.0	8.2	0.3	4.1	128	14	9.2	0.2	11
JUL											
24...	130	98	14	91	2	2.4	176	60	170	0.2	15
SEP											
12...	16	58	4.9	20	0.7	3.4	149	24	27	0.3	12

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)
DEC										
10...	350	12	4	--	<0.01	0.50	--	0.06	--	0.44
JAN										
16...	440	--	--	--	--	--	--	--	--	--
FEB										
03...	--	--	--	--	--	1.60	1.60	--	0.30	--
03...	--	--	--	--	--	1.70	1.70	--	0.23	--
03...	--	--	--	--	--	--	1.70	--	0.25	--
04...	--	--	--	--	--	1.10	1.10	--	0.14	--
APR										
17...	410	1	<1	0.09	0.01	0.10	--	0.06	--	0.34
MAY										
01...	--	--	--	--	--	0.60	--	--	--	--
01...	--	--	--	--	--	0.70	--	--	--	--
01...	--	--	--	--	--	1.00	--	--	--	--
09...	--	--	--	--	--	0.60	--	--	--	--
09...	--	--	--	--	--	0.60	--	--	--	--
09...	--	--	--	--	--	1.80	--	--	--	--
10...	--	--	--	--	--	1.00	--	--	--	--
10...	--	--	--	--	--	0.70	--	--	--	--
10...	--	--	--	--	--	0.60	--	--	--	--
10...	--	--	--	--	--	0.60	--	--	--	--
10...	--	--	--	--	--	0.90	--	--	--	--
10...	--	--	--	--	--	0.80	--	--	--	--
11...	--	--	--	--	--	0.80	--	--	--	--
11...	--	--	--	--	--	0.70	--	--	--	--
11...	--	--	--	--	--	0.80	--	--	--	--
17...	--	--	--	--	--	1.00	--	--	--	--
17...	--	--	--	--	--	0.90	--	--	--	--
17...	--	--	--	--	--	0.80	--	--	--	--
19...	--	--	--	--	--	<0.10	--	0.07	--	3.0
19...	--	--	--	--	--	0.70	--	0.06	--	0.84
JUN										
06...	170	476	51	0.29	0.01	0.30	--	0.07	--	0.73
JUL										
24...	560	4	1	--	<0.01	0.30	--	0.07	--	0.43
SEP										
12...	240	27	5	--	<0.01	0.20	--	<0.01	--	--

08051500 CLEAR CREEK NEAR SANGER, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
DEC										
10...	--	--	0.5	0.07	--	--	--	1.8	1	92
JAN										
16...	--	--	--	--	--	--	--	--	--	--
FEB										
03...	0.8	1.1	1.2	0.30	0.20	0.15	0.46	--	--	--
03...	0.77	1.0	1.5	0.59	0.11	0.08	0.25	--	--	--
03...	0.75	1.0	--	--	0.23	0.19	0.58	--	--	--
04...	0.56	0.7	0.8	0.09	0.04	0.03	0.09	--	--	--
APR										
17...	--	--	0.4	0.02	--	--	--	2.9	<1	110
MAY										
01...	--	--	2.0	0.11	--	--	--	--	--	--
01...	--	--	1.3	0.21	--	--	--	--	--	--
01...	--	--	2.7	0.17	--	--	--	--	--	--
09...	--	--	1.4	0.24	--	--	--	--	--	--
09...	--	--	1.2	0.18	--	--	--	--	--	--
09...	--	--	2.7	0.47	--	--	--	--	--	--
10...	--	--	2.6	0.24	--	--	--	--	--	--
10...	--	--	3.4	0.68	--	--	--	--	--	--
10...	--	--	2.2	0.28	--	--	--	--	--	--
10...	--	--	2.5	0.23	--	--	--	--	--	--
10...	--	--	1.0	0.11	--	--	--	--	--	--
10...	--	--	1.0	0.11	--	--	--	--	--	--
11...	--	--	1.1	0.19	--	--	--	--	--	--
11...	--	--	1.1	0.15	--	--	--	--	--	--
11...	--	--	1.1	0.08	--	--	--	--	--	--
17...	--	--	0.7	0.09	--	--	--	--	--	--
17...	--	--	2.4	0.35	--	--	--	--	--	--
17...	--	--	2.2	0.32	--	--	--	--	--	--
19...	--	--	3.1	0.45	--	--	--	--	--	--
19...	--	--	0.9	0.13	--	--	--	--	--	--
JUN										
06...	--	--	0.8	0.17	--	--	--	12	--	--
JUL										
24...	--	--	0.5	0.03	--	--	--	2.1	<1	140
SEP										
12...	--	--	0.4	0.07	--	--	--	6.6	--	--

DATE	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
DEC										
10...	2	<10	2	6	1	12	0.1	<1	<1	14
JAN										
16...	--	--	--	--	--	--	--	--	--	--
FEB										
03...	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--
APR										
17...	<1	<10	2	4	<1	15	<0.1	<1	<1	5
MAY										
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--
JUN										
06...	--	--	--	--	--	--	--	--	--	--
JUL										
24...	<1	<10	1	5	<5	19	0.1	<1	<1	24
SEP										
12...	--	--	--	--	--	--	--	--	--	--

08052700 LITTLE ELM CREEK NEAR AUBREY, TX

LOCATION.--Lat 33°17'00", long 96°53'33", Denton County, Hydrologic Unit 12030103, on left bank at downstream side of bridge on Farm Road 1385, 1.5 mi upstream from Mustang Creek, 5.5 mi east of Aubrey, and 18 mi upstream from Lewisville Dam on the Elm Fork Trinity River.

DRAINAGE AREA.--75.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1956 to September 1976, October 1979 to current year.
Water-quality records.--Chemical analyses: January 1968, March 1985 to current year. Specific conductance: December 1966 to September 1975, March 1985 to current year. Water temperatures: February 1966 to September 1975, March 1985 to current year. Sediment records: February 1966 to September 1975, March 1985 to current year.

REVISED RECORDS.--WDR TX-70-1: 1969.

GAGE.--Water-stage recorder. Datum of gage is 534.76 ft above National Geodetic Vertical Datum of 1929 (State Department of Highways and Public Transportation bench mark).

REMARKS.--No estimated daily discharges. Records good. Several small diversions for irrigation above station. Flow is affected at times by discharge from the flood-detention pools of 17 floodwater-retarding structures with a combined detention capacity of 10,460 acre-ft. These structures control runoff from 36.4 mi above station. Several observations of water temperature were obtained during the year. Automatic water-quality sampler at this station.

AVERAGE DISCHARGE.--27 years (water year 1957-76, 1980-1986), 47.2 ft^3/s (34,190 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,300 ft^3/s May 13, 1982 (gage height, 17.80 ft); no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1900, 18.2 ft in May 1941, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 3	0945	*12,000	*17.61	Feb. 6	0930	1,480	15.17
May 10	0830	1,460	15.15	June 1	1415	1,230	14.82
June 5	1915	1,380	15.04				

Minimum discharge, no flow Oct. 1-17, July 10 to Aug. 9, Aug. 16 to Sept. 4, and Sept. 20-28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	36	16	1.4	.23	3.0	.18	5.5	901	.22	.00	.00
2	.00	25	15	1.2	.28	2.6	.20	4.6	378	.17	.00	.00
3	.00	17	12	.90	4070	2.4	.19	1.5	281	.13	.00	.00
4	.00	12	10	.78	758	2.1	.41	.48	252	.10	.00	.00
5	.00	9.8	8.8	.75	460	1.8	.86	.27	998	.08	.00	38
6	.00	8.5	7.9	.56	1110	1.5	.61	.19	614	.06	.00	75
7	.00	7.8	7.0	.50	435	1.3	.33	.17	339	.04	.00	12
8	.00	7.2	6.2	.53	362	1.0	.32	.16	283	.03	.00	4.0
9	.00	6.7	5.7	.34	331	.79	.23	163	145	.02	.00	1.8
10	.00	6.2	5.5	.31	304	1.1	.18	1070	90	.00	.20	.81
11	.00	5.9	6.5	.32	264	1.8	.20	157	69	.00	.28	.34
12	.00	5.6	8.0	.32	174	5.1	.19	98	39	.00	.16	.20
13	.00	5.2	6.7	.28	137	4.8	.14	57	22	.00	.09	.13
14	.00	5.0	5.3	.26	121	4.8	.10	27	15	.00	.04	.08
15	.00	64	4.7	.27	94	4.4	.08	11	38	.00	.01	.07
16	.00	53	4.6	.29	70	3.0	.08	5.0	16	.00	.00	.05
17	.00	12	4.3	.31	36	2.2	.08	192	22	.00	.00	.03
18	.84	9.1	4.0	.30	19	4.3	.12	366	10	.00	.00	.01
19	181	8.6	3.8	.26	13	8.1	2.8	158	8.1	.00	.00	.00
20	244	7.9	3.7	.24	8.8	4.2	56	93	55	.00	.00	.00
21	89	6.7	3.3	.24	7.2	2.7	24	38	14	.00	.00	.00
22	63	5.5	3.2	.22	5.9	1.9	10	17	8.6	.00	.00	.00
23	31	5.0	3.2	.20	5.0	1.4	7.1	11	5.9	.00	.00	.00
24	19	4.6	2.9	.25	4.7	1.0	5.3	9.8	5.1	.00	.00	.00
25	13	4.5	2.6	.25	4.5	.75	4.0	8.9	4.6	.00	.00	.00
26	10	5.2	2.3	.22	4.2	.54	2.9	6.8	2.3	.00	.00	.00
27	8.4	7.8	2.1	.19	4.0	.45	2.0	5.0	1.3	.00	.00	.00
28	7.9	7.8	1.9	.21	3.5	.39	1.4	3.6	.74	.00	.00	.00
29	122	6.7	1.8	.25	---	.31	.65	2.3	.39	.00	.00	98
30	200	6.4	1.6	.22	---	.25	.40	1.2	.30	.00	.00	71
31	65	---	1.5	.23	---	.20	---	56	---	.00	.00	---
TOTAL	1054.14	372.7	172.1	12.60	8806.31	70.18	121.05	2569.47	4618.33	.85	.78	301.52
MEAN	34.0	12.4	5.55	.41	315	2.26	4.03	82.9	154	.03	.02	10.1
MAX	244	64	16	1.4	4070	8.1	56	1070	998	.22	.28	98
MIN	.00	4.5	1.5	.19	.23	.20	.08	.16	.30	.00	.00	.00
AC-FT	2090	739	341	25	17470	139	240	5100	9160	1.7	1.5	598

CAL YR 1985 TOTAL 16680.24 MEAN 45.7 MAX 2320 MIN .00 AC-FT 33090
WTR YR 1986 TOTAL 18100.03 MEAN 49.6 MAX 4070 MIN .00 AC-FT 35900

08052700 LITTLE ELM CREEK NEAR AUBREY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: June 1962 to June 1963, June 1965 to January 1968. Chemical and biochemical analyses: October 1984 to current year. Sediment analyses: April 1966 to October 1974.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: December 1966 to June 1975.
WATER TEMPERATURES: February 1966 to June 1975.
SUSPENDED SEDIMENT DISCHARGE: February 1966 to September 1975.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: (1966-68, 1971-74): Maximum daily, 1,380 microsiemens Jan. 24, Feb. 25, 1967; minimum daily, 195 microsiemens June 4, 1968.
WATER TEMPERATURE (1966-68, 1971-74): Maximum daily, 33.0°C June 16, 1968; minimum daily, freezing point Feb. 22, 1968.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,750 mg/L Aug. 13, 1966; minimum daily mean, no flow on many days.
SEDIMENT LOADS: Maximum daily, 17,900 tons May 31, 1967; minimum daily, 0 tons on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)
DEC											
05...	1530	8.8	476	8.10	8.5	70	54	12.0	--	2.4	170
JAN											
15...	1400	0.26	860	8.80	9.5	25	9.0	14.2	--	4.2	180
FEB											
03...	0130	--	--	--	--	--	--	--	--	--	--
03...	1230	--	--	--	--	--	--	--	--	--	--
03...	1315	--	--	--	--	--	--	--	--	--	--
03...	1730	--	--	--	--	--	--	--	--	--	--
04...	0015	--	--	--	--	--	--	--	--	--	--
04...	1200	--	--	--	--	--	--	--	--	--	--
04...	1215	--	--	--	--	--	--	--	--	--	--
MAY											
09...	1900	--	--	--	--	--	--	--	--	--	--
09...	2000	--	--	--	--	--	--	--	--	--	--
09...	2300	--	--	--	--	--	--	--	--	--	--
10...	0200	--	--	--	--	--	--	--	--	--	--
10...	0500	--	--	--	--	--	--	--	--	--	--
15...	1730	93	315	7.80	25.0	--	--	7.8	96	3.7	120
17...	1430	--	--	--	--	--	--	--	--	--	--
17...	1600	--	--	--	--	--	--	--	--	--	--
17...	1800	--	--	--	--	--	--	--	--	--	--
17...	2100	--	--	--	--	--	--	--	--	--	--
17...	2400	--	--	--	--	--	--	--	--	--	--
18...	0200	--	--	--	--	--	--	--	--	--	--
19...	1300	--	--	--	--	--	--	--	--	--	--
31...	2030	--	--	--	--	--	--	--	--	--	--
31...	2330	--	--	--	--	--	--	--	--	--	--
JUN											
01...	0330	--	--	--	--	--	--	--	--	--	--
04...	1740	--	--	--	--	--	--	--	--	--	--
04...	1741	--	--	--	--	--	--	--	--	--	--
04...	2230	--	--	--	--	--	--	--	--	--	--
05...	0230	--	--	--	--	--	--	--	--	--	--
05...	0930	--	--	--	--	--	--	--	--	--	--
05...	0940	996	281	7.60	23.0	80	250	5.6	67	3.9	110
05...	1930	--	--	--	--	--	--	--	--	--	--
06...	0730	--	--	--	--	--	--	--	--	--	--
06...	1330	--	--	--	--	--	--	--	--	--	--
07...	0630	--	--	--	--	--	--	--	--	--	--
SEP											
05...	1845	--	--	--	--	--	--	--	--	--	--
05...	2245	--	--	--	--	--	--	--	--	--	--
10...	1830	0.63	385	7.80	27.0	90	120	7.4	95	2.7	140

08052700 LITTLE ELM CREEK NEAR AUBREY, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
DEC											
05...	39	60	5.0	34	1	5.7	131	93	13	0.4	7.4
JAN											
15...	0	64	6.0	130	4	6.2	270	150	40	0.8	0.1
FEB											
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
MAY											
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
15...	33	43	3.2	16	0.7	4.3	88	49	5.4	0.3	7.1
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
JUN											
01...	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	35	40	2.9	9.8	0.4	6.8	77	49	5.6	0.2	13
05...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
SEP											
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
10...	39	49	4.2	23	0.9	4.9	101	75	10	0.5	11

08052700 LITTLE ELM CREEK NEAR AUBREY, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)
DEC										
05...	300	57	16	2.55	0.05	2.60	--	0.24	--	1.1
JAN										
15...	560	10	9	1.29	0.11	1.40	--	0.22	--	1.7
FEB										
03...	--	--	--	--	--	--	0.43	--	0.32	--
03...	--	--	--	--	--	--	1.60	--	0.33	--
03...	--	--	--	--	--	1.80	--	--	--	--
03...	--	--	--	--	--	--	1.70	--	0.39	--
04...	--	--	--	--	--	--	2.10	--	0.46	--
04...	--	--	--	--	--	--	2.60	--	0.68	--
04...	--	--	--	--	--	2.50	--	--	--	--
MAY										
09...	--	--	--	--	--	0.70	--	--	--	--
09...	--	--	--	--	--	1.60	--	--	--	--
09...	--	--	--	--	--	1.40	--	--	--	--
10...	--	--	--	--	--	2.30	--	--	--	--
10...	--	--	--	--	--	1.80	--	--	--	--
15...	180	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	1.80	--	--	--	--
17...	--	--	--	--	--	1.90	--	--	--	--
17...	--	--	--	--	--	3.70	--	--	--	--
17...	--	--	--	--	--	2.90	--	--	--	--
17...	--	--	--	--	--	3.10	--	--	--	--
18...	--	--	--	--	--	2.70	--	--	--	--
19...	--	--	--	--	--	2.80	--	--	--	--
31...	--	--	--	--	--	2.00	--	0.07	--	0.93
31...	--	--	--	--	--	1.40	--	0.14	--	1.3
JUN										
01...	--	--	--	--	--	1.10	--	0.12	--	0.88
04...	--	--	--	--	--	1.30	--	0.10	--	1.1
04...	--	--	--	--	--	<0.10	--	0.09	--	1.4
04...	--	--	--	--	--	1.60	--	0.07	--	1.3
05...	--	--	--	--	--	0.70	--	0.11	--	0.79
05...	--	--	--	--	--	0.50	--	0.04	--	1.3
05...	170	791	97	0.46	0.04	0.50	--	0.03	--	1.2
05...	--	--	--	--	--	1.00	--	0.06	--	0.84
06...	--	--	--	--	--	1.10	--	0.06	--	0.74
06...	--	--	--	--	--	1.30	--	0.02	--	0.68
07...	--	--	--	--	--	1.50	--	0.05	--	0.75
SEP										
05...	--	--	--	--	--	<0.10	--	0.60	--	0.2
05...	--	--	--	--	--	<0.10	--	0.65	--	0.15
10...	240	146	21	0.92	0.08	1.00	--	0.04	--	1.5

08052700 LITTLE ELM CREEK NEAR AUBREY, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
DEC										
05...	--	--	1.3	0.28	--	--	--	11	3	46
JAN										
15...	--	--	1.9	1.50	--	--	--	--	--	--
FEB										
03...	0.68	1.0	--	--	0.57	0.51	1.6	--	--	--
03...	0.67	1.0	--	--	0.29	0.26	0.8	--	--	--
03...	--	--	2.0	0.38	--	--	--	--	--	--
03...	0.51	0.9	--	--	0.15	0.13	0.4	--	--	--
04...	0.94	1.4	--	--	0.16	0.13	0.4	--	--	--
04...	0.92	1.6	--	--	0.16	0.13	0.4	--	--	--
04...	--	--	2.9	0.36	--	--	--	--	--	--
MAY										
09...	--	--	2.5	0.21	--	--	--	--	--	--
09...	--	--	1.9	0.20	--	--	--	--	--	--
09...	--	--	1.5	0.14	--	--	--	--	--	--
10...	--	--	2.3	0.28	--	--	--	--	--	--
10...	--	--	1.9	0.26	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	4	31
17...	--	--	2.2	0.14	--	--	--	--	--	--
17...	--	--	1.0	0.16	--	--	--	--	--	--
17...	--	--	1.2	0.18	--	--	--	--	--	--
17...	--	--	2.8	0.19	--	--	--	--	--	--
17...	--	--	1.9	0.22	--	--	--	--	--	--
18...	--	--	2.2	0.34	--	--	--	--	--	--
19...	--	--	2.1	0.24	--	--	--	--	--	--
31...	--	--	1.0	0.12	--	--	--	--	--	--
31...	--	--	1.4	0.17	--	--	--	--	--	--
JUN										
01...	--	--	1.0	0.22	--	--	--	--	--	--
04...	--	--	1.2	0.23	--	--	--	--	--	--
04...	--	--	1.5	0.24	--	--	--	--	--	--
04...	--	--	1.4	0.17	--	--	--	--	--	--
05...	--	--	0.9	0.16	--	--	--	--	--	--
05...	--	--	1.3	0.23	--	--	--	--	--	--
05...	--	--	1.2	0.36	--	--	--	19	--	--
05...	--	--	0.9	0.22	--	--	--	--	--	--
06...	--	--	0.8	0.21	--	--	--	--	--	--
06...	--	--	0.7	0.21	--	--	--	--	--	--
07...	--	--	0.8	0.23	--	--	--	--	--	--
SEP										
05...	--	--	0.8	<0.20	--	--	--	--	--	--
05...	--	--	0.8	1.40	--	--	--	--	--	--
10...	--	--	1.5	0.13	--	--	--	11	3	38

08052700 LITTLE ELM CREEK NEAR AUBREY, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC										
05...	<1	<10	2	55	1	4	0.1	<1	1	26
JAN										
15...	--	--	--	--	--	--	--	--	--	--
FEB										
03...	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--
MAY										
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
15...	<1	<10	3	31	<5	<1	<0.1	<1	<1	4
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
JUN										
01...	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
SEP										
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
10...	1	<10	5	140	<5	<1	<0.1	<1	<1	17

08052730 PECAN CREEK NEAR AUBREY, TX

LOCATION.--Lat 33°17'50", long 96°55'06", Denton County, Hydrologic Unit 12030103, on Farm Road 428 bridge, over center of channel at downstream side of bridge, 1.1 mi dwonstream from unnamed tributary on right bank, 2.2 mi upstream from unnamed tributary on right bank, and 4.0 mi east of Aubrey.

DRAINAGE AREA.--32.2 mi.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: December 1985 to September 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
DEC 05...	1700	0.4	997	7.50	12.0	50	35	11.9	111	2.5	380	320
APR 16...	1000	0.26	1040	7.30	15.0	25	12	6.5	65	1.2	380	240
JUN 05...	1300	301	174	7.00	22.5	300	250	6.4	75	4.5	57	18
SEP 11...	1600	0.43	380	7.20	26.5	55	15	5.8	73	1.5	140	92

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
DEC 05...	88	39	60	1	9.8	57	380	38	0.4	13	660
APR 16...	100	32	69	2	6.2	142	320	62	0.5	5.5	680
JUN 05...	16	4.2	8.1	0.5	8.1	39	30	8.7	0.2	10	110
SEP 11...	39	10	20	0.8	6.6	47	120	14	0.3	12	250

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DISSOLVED (UG/L AS AS)
DEC 05...	50	8	0.57	0.03	0.60	0.14	1.2	1.3	0.16	12	<1
APR 16...	12	<1	--	0.02	<0.10	0.16	0.84	1.0	0.08	13	<1
JUN 05...	475	68	0.33	0.07	0.40	0.11	1.5	1.6	0.56	22	--
SEP 11...	9	3	0.48	0.02	0.50	0.03	0.57	0.6	0.15	9.0	2

DATE	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
DEC 05...	110	<1	<10	3	71	1	120	0.2	<1	<1	15
APR 16...	84	<1	<10	4	21	2	790	<0.1	<1	<1	6
JUN 05...	--	--	--	--	--	--	--	--	--	--	--
SEP 11...	63	<1	<10	3	120	<5	45	<0.1	<1	<1	14

08052780 HICKORY CREEK AT DENTON, TX

LOCATION.--Lat 33°09'06", long 97°08'30", Denton County, Hydrologic Unit 12030103, on left bank 4 ft upstream from upstream side of bridge on Farm Road 1830, 0.4 mi downstream from Graveyard Branch, 1.2 mi downstream from Roark 1.4 mi upstream from Atchison, Topeka, and Santa Fe Railroad Co. bridge, and 4.4 mi south of Denton County Courthouse.

DRAINAGE AREA.--129 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 530.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1 to Dec. 5 and May 1-6. Records good except for estimated daily discharges, Oct. 1 to Dec. 5, which are poor. Nine floodwater-retarding structures with a combined detention capacity of 5,560 acre-ft affecting runoff from 17.0 mi² are located in basin above the station. Automatic sampler for sampling storm flow is located at this station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,400 ft³/s May 10, 1986 at 0430 hours (gage height, 22.70 ft).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum known stage, 29.54 ft Oct. 30, 1974, from information by the State Department of Highways and Public Transportation. Historic peaks from nearby stations indicate that any outstanding floods probably occurred in May 1908 and October 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,400 ft³/s on May 10 at 0430 hours (gage height, 22.70 ft); minimum no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	10	16	3.8	3.4	10	5.3	1170	1180	6.5	.18	949
2	.00	9.0	30	3.8	17	10	5.2	131	634	6.0	.16	266
3	.00	8.5	18	3.7	4880	9.8	5.2	49	353	6.0	14	111
4	.00	8.2	12	3.6	374	9.3	29	27	195	6.4	24	231
5	.00	7.5	9.0	3.6	471	8.8	24	15	316	5.6	2.3	3670
6	.00	6.8	7.6	3.4	1080	8.2	12	11	126	4.6	.47	565
7	.00	6.3	6.6	3.2	221	7.9	8.5	8.4	60	4.0	.22	339
8	.00	6.0	7.3	3.2	143	7.7	6.6	6.9	387	4.0	.16	125
9	.00	5.6	6.1	3.1	116	7.6	4.9	168	846	4.6	.15	71
10	.00	5.4	5.8	2.9	84	8.2	4.4	4170	252	2.7	.19	52
11	.00	5.2	6.7	2.8	62	11	4.1	222	1350	2.3	2.0	26
12	.00	5.0	6.4	2.8	43	22	96	127	214	2.0	1.4	10
13	.00	4.8	5.9	2.6	38	16	27	86	80	1.6	.43	5.5
14	.00	4.6	4.8	2.4	34	23	13	63	49	1.5	.17	3.6
15	.00	4.4	4.3	2.4	30	15	9.6	39	177	1.4	.07	2.7
16	.00	4.3	4.9	2.6	28	11	6.5	27	268	1.2	.07	1.9
17	.00	4.2	5.0	2.6	25	9.1	5.0	500	268	1.1	.07	1.3
18	2800	12	4.2	2.7	23	25	4.8	876	76	.97	.06	.98
19	700	29	3.9	3.0	21	34	143	178	50	.84	.05	.76
20	250	30	3.7	3.2	18	20	144	76	38	.71	.03	.55
21	110	22	3.6	3.2	15	12	43	50	30	.66	.02	.41
22	70	16	3.6	3.2	15	9.8	22	37	23	.58	.02	.31
23	40	13	3.7	3.2	13	9.5	15	27	18	.63	.01	.25
24	30	10	3.7	3.0	13	8.9	9.2	1910	101	.59	.01	.21
25	25	9.5	3.5	3.1	12	8.4	7.1	979	40	.57	.00	.15
26	22	9.0	3.3	3.1	12	7.8	5.5	200	23	.52	.00	.11
27	18	17	3.8	3.1	12	8.6	7.1	107	16	.41	.00	.09
28	15	21	4.4	3.2	10	7.1	5.3	73	12	.34	.00	.08
29	13	14	4.4	3.4	---	6.4	3.1	49	9.4	.30	.00	.07
30	12	12	4.4	3.4	---	5.9	44	37	7.6	.24	.00	.05
31	11	---	4.0	3.4	---	5.6	---	160	---	.19	.00	---
TOTAL	4116.00	320.3	210.6	96.7	7813.4	363.6	719.4	11579.3	7199.0	69.05	46.24	6434.02
MEAN	133	10.7	6.79	3.12	279	11.7	24.0	374	240	2.23	1.49	214
MAX	2800	30	30	3.8	4880	34	144	4170	1350	6.5	24	3670
MIN	.00	4.2	3.3	2.4	3.4	5.6	3.1	6.9	7.6	.19	.00	.05
AC-FT	8160	635	418	192	15500	721	1430	22970	14280	137	92	12760

CAL YR 1985 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1986 TOTAL 38967.61 MEAN 107 MAX 4880 MIN .00 AC-FT 77290

08052780 HICKORY CREEK AT DENTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1984 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3
FEB									
03...	1030	--	--	--	--	--	--	--	--
03...	1135	--	--	--	--	--	--	--	--
03...	1440	--	--	--	--	--	--	--	--
04...	1220	--	--	--	--	--	--	--	--
APR									
30...	2300	--	--	--	--	--	--	--	--
30...	2400	--	--	--	--	--	--	--	--
MAY									
01...	0100	--	--	--	--	--	--	--	--
01...	0300	--	--	--	--	--	--	--	--
01...	0500	--	--	--	--	--	--	--	--
01...	0800	--	--	--	--	--	--	--	--
01...	1200	--	--	--	--	--	--	--	--
19...	1500	--	--	--	--	--	--	--	--
JUN									
03...	1250	--	--	--	--	--	--	--	--
03...	1251	--	--	--	--	--	--	--	--
03...	1330	--	--	--	--	--	--	--	--
03...	1730	--	--	--	--	--	--	--	--
03...	2230	--	--	--	--	--	--	--	--
04...	0230	--	--	--	--	--	--	--	--
05...	0400	--	--	--	--	--	--	--	--
05...	0600	--	--	--	--	--	--	--	--
05...	1200	--	--	--	--	--	--	--	--
08...	1830	--	--	--	--	--	--	--	--
08...	2130	--	--	--	--	--	--	--	--
09...	0030	--	--	--	--	--	--	--	--
09...	0330	--	--	--	--	--	--	--	--
09...	1030	--	--	--	--	--	--	--	--
09...	1730	--	--	--	--	--	--	--	--
JUL									
24...	0820	250	2	88	7.7	27	0.8	2.8	249
SEP									
05...	1030	--	--	--	--	--	--	--	--
05...	1330	--	--	--	--	--	--	--	--
05...	1630	--	--	--	--	--	--	--	--
05...	1930	--	--	--	--	--	--	--	--
05...	2330	--	--	--	--	--	--	--	--
06...	0430	--	--	--	--	--	--	--	--
11...	1100	--	--	--	--	--	--	--	--
11...	1430	140	0	50	3.1	17	0.7	2.9	147

08052780 HICKORY CREEK AT DENTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
FEB									
03...	--	--	--	--	--	--	1.50	--	0.21
03...	--	--	--	--	--	1.70	1.60	--	0.19
03...	--	--	--	--	--	1.90	1.90	--	0.17
04...	--	--	--	--	--	1.50	1.50	--	0.16
APR									
30...	--	--	--	--	--	1.00	--	--	--
30...	--	--	--	--	--	0.80	--	--	--
MAY									
01...	--	--	--	--	--	1.00	--	--	--
01...	--	--	--	--	--	1.40	--	--	--
01...	--	--	--	--	--	1.50	--	--	--
01...	--	--	--	--	--	1.60	--	--	--
01...	--	--	--	--	--	1.70	--	--	--
19...	--	--	--	--	--	0.70	--	--	--
JUN									
03...	--	--	--	--	--	0.70	--	0.16	--
03...	--	--	--	--	--	0.70	--	0.14	--
03...	--	--	--	--	--	0.80	--	0.05	--
03...	--	--	--	--	--	0.70	--	0.08	--
03...	--	--	--	--	--	0.80	--	0.08	--
04...	--	--	--	--	--	0.90	--	0.09	--
05...	--	--	--	--	--	0.80	--	0.07	--
05...	--	--	--	--	--	1.00	--	0.06	--
05...	--	--	--	--	--	0.80	--	0.05	--
08...	--	--	--	--	--	1.30	--	0.04	--
08...	--	--	--	--	--	1.20	--	0.04	--
09...	--	--	--	--	--	1.20	--	0.02	--
09...	--	--	--	--	--	1.30	--	0.03	--
09...	--	--	--	--	--	1.10	--	0.02	--
09...	--	--	--	--	--	0.80	--	0.05	--
JUL									
24...	49	16	0.3	12	350	0.20	--	0.08	--
SEP									
05...	--	--	--	--	--	<0.10	--	6.30	--
05...	--	--	--	--	--	0.50	--	0.31	--
05...	--	--	--	--	--	0.90	--	0.07	--
05...	--	--	--	--	--	0.80	--	0.40	--
05...	--	--	--	--	--	0.50	--	0.28	--
06...	--	--	--	--	--	1.50	--	0.49	--
11...	--	--	--	--	--	0.80	--	0.09	--
11...	23	10	0.3	13	210	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)
FEB								
03...	--	0.69	0.9	--	--	0.19	0.16	0.49
03...	--	0.61	0.8	1.9	0.27	0.13	0.10	0.31
03...	--	0.73	0.9	0.9	0.18	0.14	0.11	0.34
04...	--	0.74	0.9	1.3	0.19	0.09	0.07	0.21
APR								
30...	--	--	--	1.5	0.11	--	--	--
30...	--	--	--	6.8	0.19	--	--	--
MAY								
01...	--	--	--	8.5	0.16	--	--	--
01...	--	--	--	6.1	0.19	--	--	--
01...	--	--	--	3.7	0.25	--	--	--
01...	--	--	--	2.7	0.16	--	--	--
01...	--	--	--	1.8	0.16	--	--	--
19...	--	--	--	0.8	0.11	--	--	--
JUN								
03...	1.1	--	--	1.3	0.13	--	--	--
03...	1.1	--	--	1.2	0.12	--	--	--
03...	1.5	--	--	1.6	0.16	--	--	--
03...	1.3	--	--	1.4	0.09	--	--	--
03...	1.6	--	--	1.7	0.13	--	--	--
04...	1.1	--	--	1.2	0.09	--	--	--
05...	0.93	--	--	1.0	0.11	--	--	--
05...	1.7	--	--	1.8	0.21	--	--	--
05...	1.5	--	--	1.5	0.09	--	--	--
08...	1.7	--	--	1.7	0.18	--	--	--
08...	1.8	--	--	1.8	0.17	--	--	--
09...	1.5	--	--	1.5	0.14	--	--	--
09...	2.0	--	--	2.0	0.20	--	--	--
09...	1.6	--	--	1.6	0.16	--	--	--
09...	1.0	--	--	1.1	0.12	--	--	--
JUL								
24...	0.62	--	--	0.7	<0.20	--	--	--
SEP								
05...	1.1	--	--	7.4	<0.90	--	--	--
05...	0.0	--	--	0.3	<0.20	--	--	--
05...	0.93	--	--	1.0	<0.20	--	--	--
05...	0.6	--	--	1.0	<0.20	--	--	--
05...	0.92	--	--	1.2	<0.20	--	--	--
06...	0.11	--	--	0.6	0.20	--	--	--
11...	4.7	--	--	4.8	<0.20	--	--	--
11...	--	--	--	--	--	--	--	--

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX

LOCATION.--Lat 33°04'09", long 96°57'51", Denton County, Hydrologic Unit 12030103, in intake structure of Lewisville Dam on Elm Fork Trinity River, 2 mi upstream from bridge on State Highway 121, 2.4 mi northeast of Lewisville, 12 mi upstream from Denton Creek, and 30.0 mi upstream from mouth.

DRAINAGE AREA.--1,660 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1954 to current year. Prior to October 1970, published as Garza-Little Elm Reservoir near Lewisville.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 17, 1955, nonrecording gage at site 4,000 ft upstream at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 32,888 ft long, including a 560-foot uncontrolled off-channel concrete-gravity spillway with ogee weir section. Deliberate impoundment began Nov. 1, 1954, and the dam was completed in August 1955. The controlled low-flow outlet works consist of a 16.0-foot-diameter conduit that is controlled by three 6.5- by 13.0-foot broome-type gates and two 60-inch steel pipes with service valves. The lake was built for flood control and water conservation. The city of Dallas obtains most of its municipal water supply from this lake. The capacity table is based on a survey made in 1965. Inflow is affected at times by discharge from the flood-detention pools of 118 floodwater-retarding structures with a combined detention capacity of 81,670 acre-ft. These structures control runoff from 298 mi² in the Elm Fork Trinity River, Clear, Little Elm, and Hickory Creeks watersheds. Gage-height telemeter at station. An unknown amount of water was diverted for municipal and industrial uses. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	560.0	-
Crest of spillway	532.0	981,800
Top of conservation pool	515.0	457,600
Lowest intakes to wet wells (invert)	481.0	42,560
Invert of three broome-type gates	448.0	0

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,168,000 acre-ft Nov. 1, 1981 (elevation, 536.46 ft); minimum since initial filling in 1957, 164,700 acre-ft Sept. 28, 1980 (elevation, 498.65 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 657,700 acre-ft June 17 at 1100 hours (elevation, 522.56 ft); minimum daily, 358,400 acre-ft Oct. 17 at 1200 (elevation, 510.36 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

510.0	351,900	518.0	530,800	524.0	701,600
514.0	434,700	521.0	611,800		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	367700	451100	463000	454400	445200	465800	454800	482000	559900	567300	458500	442700
2	367000	452500	462300	454400	447000	464400	453400	482000	572500	560700	457400	450200
3	366000	453400	461800	454100	509200	463200	457100	481500	588800	552900	458500	451400
4	365400	453900	462000	453900	525000	462500	460900	480500	595800	547200	457800	452100
5	364700	453900	461800	453000	538500	461300	467400	479100	613500	544900	456700	471700
6	363300	454800	461300	453000	557000	460900	473100	478400	624300	542300	455300	483400
7	362200	454600	461600	453000	562800	459700	477600	477400	630400	539500	454400	488000
8	361800	453700	461300	452300	563300	458800	482000	477200	637700	535700	453400	489500
9	361200	454400	461100	451800	564100	457100	483700	480300	645700	529800	452300	487500
10	361200	454800	463000	451600	563100	457400	483900	523500	649300	522200	452100	481700
11	360900	454400	462300	451400	560700	457600	483900	533400	654400	514200	451100	476200
12	360500	453900	461800	451100	558300	457400	488500	535200	654700	506700	450000	470700
13	359600	454100	461100	450700	552900	459000	487000	533100	652900	499300	448800	467900
14	360500	454600	460400	450400	550300	459500	485400	529300	651100	491900	447900	466000
15	359700	457600	459900	449800	544900	459500	482000	525700	655900	485100	446800	464600
16	358800	457800	459700	449800	540300	459000	477900	521200	656800	481200	445900	463200
17	358800	457800	459500	449800	534600	458100	473800	532100	656500	478800	445200	462300
18	363700	458300	459200	449800	528500	461100	473100	545100	652000	477600	444000	461300
19	380800	459500	458800	449300	522000	460400	479800	551300	646900	476200	442900	460200
20	394800	459000	458300	449100	516200	459900	482900	554400	641300	475000	442000	459500
21	403100	459000	457800	449100	508400	459000	484900	553400	635700	473600	440800	458100
22	409600	458800	457800	448600	500700	458500	484400	551100	629200	473100	439500	457400
23	416000	458800	457600	447900	493600	458300	482000	548800	623100	471700	438600	456700
24	421700	459200	457600	447900	486100	458100	480500	555500	617600	470300	438100	455100
25	426800	458800	456200	447700	478800	456700	479600	561800	611500	468600	437200	454400
26	431300	462500	456000	447500	474300	457400	478600	565700	604600	467400	436100	453400
27	435200	462700	456000	446100	471200	456900	479600	564900	597300	466000	435600	453000
28	439200	462000	455800	445900	468100	456500	478100	561500	589900	464600	434500	452500
29	444500	461600	455300	445900	---	456000	476500	557000	582100	463000	433100	451400
30	447000	462700	455300	445400	---	455300	478400	551900	574600	461300	432000	451100
31	449100	---	455100	445200	---	455100	---	552600	---	460200	430600	---
MAX	449100	462700	463000	454400	564100	465800	488500	565700	656800	567300	458500	489500
MIN	358800	451100	455100	445200	445200	455100	453400	477200	559900	460200	430600	442700
(†)	514.63	515.22	514.89	514.46	515.45	514.89	515.88	518.85	519.68	515.11	513.82	514.72
(ϕ)	+80200	+13600	-7600	-9900	+22900	-13000	+23300	+74200	+22000	-114400	-29600	-20500

CAL YR 1985 MAX 574900 MIN 358800 (ϕ) +68700
WTR YR 1986 MAX 656800 MIN 358800 (ϕ) +82200

(†) Elevation, in feet, at end of month.
(ϕ) Change in contents, in acre-feet.

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1969 to current year.

330419096575401 - LEWISVILLE LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
NOV											
21...	0951	1.00	338	8.30	15.5	0.6	8.1	81	52	K32	120
21...	0952	0.9	--	--	--	--	--	--	--	--	--
21...	0953	10.0	338	8.30	15.5	--	8.1	81	--	--	--
21...	0954	20.0	338	8.30	15.5	--	8.2	82	--	--	--
21...	0955	30.0	338	8.30	15.5	--	8.2	82	--	--	--
21...	0956	40.0	338	8.30	15.5	--	8.2	82	--	--	--
21...	0957	50.0	338	8.30	15.5	--	8.2	82	--	--	--
21...	0958	59.0	338	8.30	15.5	--	8.3	83	--	--	120
MAR											
27...	0841	1.00	318	8.20	14.5	0.8	8.0	78	53	K9	110
27...	0842	1.30	--	--	--	--	--	--	--	--	--
27...	0843	10.0	318	8.20	14.5	--	7.9	77	--	--	--
27...	0844	20.0	318	8.20	14.0	--	7.9	76	--	--	--
27...	0845	30.0	318	8.10	14.0	--	7.8	75	--	--	--
27...	0846	40.0	318	8.10	14.0	0.8	7.8	75	--	--	--
27...	0847	50.0	318	8.10	14.0	--	7.6	73	--	--	--
27...	0848	60.0	321	8.00	14.0	--	6.6	64	--	--	110
AUG											
14...	0851	1.00	298	7.90	28.5	2.00	4.7	--	<2	K6	110
14...	0852	1.00	--	--	--	--	--	--	--	--	--
14...	0853	10.0	298	7.90	28.5	--	4.6	--	--	--	--
14...	0855	20.0	298	7.80	28.5	--	4.3	--	--	--	--
14...	0857	25.0	298	7.60	28.0	--	3.8	--	--	--	--
14...	0859	30.0	302	7.50	28.0	--	1.4	--	--	--	--
14...	0901	40.0	321	7.50	26.0	--	1.0	12	--	--	--
14...	0903	50.0	330	7.50	25.0	--	1.0	12	--	--	--
14...	0905	60.0	337	7.60	24.5	--	1.0	12	--	--	120

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
NOV											
21...	22	41	4.1	22	0.9	5.1	97	32	21	0.3	1.4
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	21	41	4.1	22	0.9	5.0	98	32	21	--	1.4
MAR											
27...	15	38	3.7	19	0.8	4.6	95	24	19	0.3	3.2
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	15	39	3.7	19	0.8	4.6	98	23	19	--	3.5
AUG											
14...	15	38	3.7	17	0.7	4.5	95	26	16	0.3	3.8
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
14...	3	43	4.0	18	0.7	4.8	121	19	16	--	12

LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

330419096575401 - LEWISVILLE LAKE SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV											
21...	190	8	0.38	0.02	0.40	0.05	0.65	0.7	0.04	8	4
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	0.38	0.02	0.40	0.06	0.34	0.4	0.04	20	<10
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	190	11	0.38	0.02	0.40	0.06	0.44	0.5	0.05	7	4
MAR											
27...	170	24	0.91	0.09	1.00	0.06	0.44	0.5	0.08	15	1
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	0.82	0.08	0.90	0.03	0.67	0.7	0.06	<10	<10
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	0.92	0.08	1.00	0.04	0.56	0.6	0.06	<10	<10
27...	--	--	--	--	--	--	--	--	--	--	--
27...	170	152	0.93	0.07	1.00	0.07	0.83	0.9	0.07	38	8
AUG											
14...	170	1	--	<0.01	<0.10	0.03	0.57	0.6	0.03	<3	17
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	<0.01	<0.10	0.03	0.57	0.6	0.03	70	40
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	<0.01	<0.10	0.02	0.38	0.4	0.03	160	160
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
14...	190	34	--	0.01	<0.10	0.88	0.52	1.4	0.33	2000	1000

330410096584501 - LEWISVILLE LAKE SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
NOV							
21...	1031	1.00	336	8.40	15.5	8.1	81
21...	1032	10.0	336	8.40	15.5	8.1	81
21...	1033	20.0	336	8.40	15.5	8.0	80
21...	1034	30.0	336	8.30	15.5	8.0	80
21...	1035	40.0	336	8.30	15.5	8.0	80
21...	1036	47.0	338	8.30	15.5	8.0	80
MAR							
27...	0916	1.00	317	8.20	15.0	8.1	80
27...	0917	10.0	317	8.20	14.5	8.0	78
27...	0918	20.0	317	8.20	14.5	8.0	78
27...	0919	30.0	317	8.20	14.5	7.9	77
27...	0920	40.0	317	8.20	14.5	7.9	77
AUG							
14...	0924	1.00	297	8.00	28.5	4.8	--
14...	0926	10.0	297	8.00	28.0	4.7	--
14...	0928	20.0	297	8.00	28.0	4.7	--
14...	0930	29.0	297	8.00	28.0	4.6	--

330450096560501 - LEWISVILLE LAKE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
NOV							
21...	1051	1.00	348	8.40	15.5	8.0	80
21...	1052	10.0	348	8.40	15.5	8.0	80
21...	1053	20.0	368	8.40	15.0	8.0	80
21...	1054	31.0	368	8.40	15.0	7.9	79
MAR							
27...	0941	1.00	358	8.80	16.0	9.4	95
27...	0942	10.0	341	8.50	15.5	8.5	85
27...	0943	20.0	318	8.20	14.5	7.8	76
27...	0944	30.0	318	8.20	14.5	7.8	76
AUG							
14...	0938	1.00	306	8.40	28.5	5.8	--
14...	0940	10.0	306	8.30	28.5	5.7	--
14...	0942	24.0	304	8.20	28.5	5.2	--

LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

330606097025601 - LEWISVILLE LAKE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
NOV							
21...	1351	1.00	325	8.40	15.0	7.9	79
21...	1352	10.0	322	8.40	15.0	7.8	78
21...	1353	24.0	322	8.40	15.0	7.8	78
MAR							
27...	1211	1.00	323	8.50	19.0	8.8	95
27...	1212	10.0	336	8.40	17.0	7.7	79
27...	1213	24.0	328	8.20	17.0	6.6	68
AUG							
14...	1150	1.00	313	8.30	30.0	5.6	--
14...	1152	10.0	313	8.30	30.0	5.2	--
14...	1154	23.0	311	8.20	29.5	4.9	--

330755096572001 - LEWISVILLE LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	NITROGEN, NITRATE TOTAL (MG/L AS N)
NOV									
21...	1117	1.00	336	8.40	15.0	0.5	8.0	80	0.48
21...	1118	10.0	336	8.40	15.0	--	8.0	80	--
21...	1119	20.0	338	8.40	15.0	--	7.9	79	0.57
21...	1120	30.0	338	8.40	15.0	--	7.9	79	--
21...	1121	35.0	338	8.40	15.0	--	7.8	78	0.57
MAR									
27...	1016	1.00	320	8.50	17.0	0.5	8.4	87	1.02
27...	1017	10.0	316	8.40	16.5	--	8.0	82	--
27...	1018	20.0	316	8.30	15.5	--	7.7	77	1.00
27...	1019	30.0	318	8.30	15.5	--	7.4	74	--
27...	1020	36.0	318	8.40	15.5	--	7.4	74	1.01
AUG									
14...	0958	1.00	301	8.60	29.5	1.00	6.1	--	--
14...	1000	10.0	301	8.50	29.0	--	6.0	--	--
14...	1002	20.0	301	8.50	29.0	--	5.9	--	--
14...	1004	32.0	301	8.40	29.0	--	5.4	--	--

DATE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
NOV								
21...	0.02	0.50	0.05	0.55	0.6	0.05	20	<10
21...	--	--	--	--	--	--	--	--
21...	0.03	0.60	0.07	0.33	0.4	0.05	20	<10
21...	--	--	--	--	--	--	--	--
21...	0.03	0.60	0.07	0.33	0.4	0.05	20	<10
MAR								
27...	0.08	1.10	0.05	0.75	0.8	0.06	<10	<10
27...	--	--	--	--	--	--	--	--
27...	0.10	1.10	0.06	0.64	0.7	0.06	<10	<10
27...	--	--	--	--	--	--	--	--
27...	0.09	1.10	0.06	0.74	0.8	0.06	--	--
AUG								
14...	<0.01	<0.10	0.02	0.48	0.5	0.03	20	10
14...	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--
14...	0.03	<0.10	0.06	0.44	0.5	0.10	30	40

LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

330959096565301 - LEWISVILLE LAKE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
NOV											
21...	1139	1.00	346	8.40	15.0	0.4	7.9	79	100	120	120
21...	1140	0.7	--	--	--	--	--	--	--	--	--
21...	1141	10.0	347	8.40	14.5	--	7.9	78	--	--	--
21...	1142	22.0	352	8.40	14.5	--	7.9	78	--	--	130
MAR											
27...	1036	1.00	329	8.40	18.0	0.2	8.2	86	110	50	120
27...	1037	0.4	--	--	--	--	--	--	--	--	--
27...	1038	10.0	327	8.30	16.5	--	7.7	79	--	--	--
27...	1040	20.0	329	8.20	16.0	--	7.0	71	--	--	120
AUG											
14...	1028	1.00	303	8.40	29.5	0.4	5.6	--	K6	K9	110
14...	1029	1.00	--	--	--	--	--	--	--	--	--
14...	1030	10.0	303	8.30	29.5	--	5.4	--	--	--	--
14...	1032	20.0	306	8.10	29.5	--	4.6	--	--	--	110

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV											
21...	28	43	4.2	22	0.9	5.1	97	40	19	2.3	190
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	35	45	4.3	22	0.9	5.3	95	44	18	2.8	200
MAR											
27...	23	42	3.7	16	0.7	4.6	97	33	15	4.7	180
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	25	43	3.8	17	0.7	4.5	98	32	14	5.1	180
AUG											
14...	13	37	3.8	18	0.8	4.4	95	30	16	3.5	170
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
14...	14	38	3.8	18	0.8	5.2	97	29	16	3.8	170

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV										
21...	--	1.05	0.05	1.10	0.08	0.62	0.7	0.06	6	4
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	1.33	0.07	1.40	0.09	0.61	0.7	0.08	13	4
MAR										
27...	--	1.99	0.11	2.10	0.46	1.4	1.9	0.06	10	1
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	1.90	0.10	2.00	0.49	1.4	1.9	0.05	33	3
AUG										
14...	7	--	<0.01	<0.10	0.02	0.68	0.7	0.05	29	15
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	65	--	0.01	<0.10	0.06	0.44	0.5	0.07	29	47

330722096592201 - LEWISVILLE LAKE SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
NOV									
21...	1246	1.00	320	8.40	15.0	0.5	7.9	79	0.48
21...	1247	10.0	300	8.30	15.0	--	7.9	79	0.56
21...	1248	20.0	285	8.30	15.0	--	7.8	78	--
21...	1249	25.0	261	8.40	14.5	--	7.8	77	0.85
MAR									
27...	1111	1.00	325	8.30	18.5	0.3	8.1	86	0.92
27...	1112	10.0	320	8.30	16.5	--	7.9	81	--
27...	1113	23.0	315	8.20	16.0	--	7.5	76	0.97
AUG									
14...	1048	1.00	304	8.50	29.5	0.9	6.2	--	--
14...	1050	10.0	325	8.30	29.5	--	5.5	--	--
14...	1052	22.0	345	8.10	28.5	--	4.8	--	--

LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

330722096592201 - LEWISVILLE LAKE SITE FC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
NOV 21...	0.02	0.50	0.06	0.44	0.5	0.08	30	<10
21...	0.04	0.60	0.08	0.52	0.6	0.14	20	<10
21...	--	--	--	--	--	--	--	--
21...	0.05	0.90	0.10	0.6	0.7	0.24	30	<10
MAR 27...	0.08	1.00	0.02	0.58	0.6	0.08	10	<10
27...	--	--	--	--	--	--	--	--
27...	0.03	1.00	0.05	0.65	0.7	0.14	20	<10
AUG 14...	<0.01	<0.10	0.01	0.59	0.6	0.04	30	<10
14...	--	--	--	--	--	--	--	--
14...	0.02	<0.10	0.06	0.54	0.6	0.09	30	<10

330944097003601 - LEWISVILLE LAKE SITE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
NOV 21...	1311	1.00	274	8.40	14.0	0.2	7.9	77	110	K45	110
21...	1312	0.4	--	--	--	--	--	--	--	--	--
21...	1313	12.0	285	8.40	13.0	--	7.8	74	--	--	120
MAR 27...	1133	1.00	347	8.40	19.0	0.2	8.1	87	K100	K0	120
27...	1134	1.00	--	--	--	--	--	--	--	--	--
27...	1135	11.0	376	8.30	17.5	--	7.2	75	--	--	130
AUG 14...	1104	1.00	370	8.60	29.5	--	6.1	--	K22	40	140
14...	1105	1.00	--	--	--	--	--	--	--	--	--
14...	1106	12.0	370	8.50	29.0	--	5.7	--	--	--	140

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
NOV 21...	19	39	3.7	15	0.6	5.6	94	28	14	21	180
21...	--	--	--	--	--	--	--	--	--	--	--
21...	20	41	3.7	16	0.7	5.8	98	22	15	11	170
MAR 27...	15	42	4.2	20	0.8	4.6	107	21	22	5.9	180
27...	--	--	--	--	--	--	--	--	--	--	--
27...	13	45	4.5	22	0.9	4.7	118	22	25	5.6	200
AUG 14...	5	47	4.5	21	0.8	5.2	131	22	23	2.3	200
14...	--	--	--	--	--	--	--	--	--	--	--
14...	5	47	4.5	20	0.8	5.8	131	21	23	2.5	200

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
NOV 21...	63	0.95	0.05	1.00	0.09	0.71	0.8	0.23	1200	45
21...	--	--	--	--	--	--	--	--	--	--
21...	52	1.04	0.06	1.10	0.12	0.68	0.8	0.29	750	60
MAR 27...	25	0.97	0.03	1.00	0.04	0.86	0.9	0.17	15	2
27...	--	--	--	--	--	--	--	--	--	--
27...	89	0.87	0.03	0.90	0.09	0.81	0.9	0.19	8	2
AUG 14...	37	--	<0.01	<0.10	0.02	0.88	0.9	0.14	45	4
14...	--	--	--	--	--	--	--	--	--	--
14...	53	--	<0.01	<0.10	0.03	0.77	0.8	0.13	14	31

LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

Lewisville Lake AC (330419096575401)

Phytoplankton Analyses October 1985 to September 1986

Date	11-21-85
Time	0952
TOTAL CELLS/ml	32,037
NUMBER OF SPECIES	24
DEPTH COLLECTED (ft.)	0.9

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
Kirchneriella lunaris	341
Mesotaenium sp.	57
Oocystis sp.	57
Phacotus sp.	57
Scenedesmus abundans	227
Scenedesmus armatus var. *bicaudatus*	227
Scenedesmus brasiliensis	114
Scenedesmus serratus	454
Schroederia setigera	57
Tetrastrum glabrum	227
Tetrastrum staurogeniaeforme	852
CYANOPHYTA (Blue-green algae)	
Aphanocapsa delicatissima	8577
Aphanocapsa elachista	227
Aphanothece saxicola	1363
Chroococcus pallidus	568
Chroococcus turgidus	114
Dactylococcopsis fascicularis	114
Lyngbya contorta	1818
Merismopedia tenuissima	14768
Synechococcus aeruginosa	57
Synechococcus elongatus ?	1306
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
Cyclotella stelligera	227
Order Pennales	
Nitzschia palea	114
Nitzschia paleacea	114

Lewisville Lake AC (330419096575401)

Phytoplankton Analyses October 1985 to September 1986

Date	3-27-86
Time	0842
TOTAL CELLS/ml	3,637
NUMBER OF SPECIES	15
DEPTH COLLECTED (ft.)	1.3

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
Ankistrodesmus falcatus var. *mirabilis*	170
Ankistrodesmus nannoselene	57
Mesotaenium sp.	114
Schroederia setigera	57
Tetrastrum staurogeniaeforme	227
CYANOPHYTA (Blue-green algae)	
Aphanizomenon flos-aquae	454
Dactylococcopsis fascicularis	284
Lyngbya nana	909
Synechococcus elongatus	1079
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
Coscinodiscus sp.	8
Cyclotella stelligera	114
Stephanodiscus hantzschii	95
Stephanodiscus niagarae	8
Stephanodiscus tenuis	4
Order Pennales	
Nitzschia acicularis	57

LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

Lewisville Lake AC (330419096575401)

Phytoplankton Analyses October 1985 to September 1986

Date	8-14-86
Time	0852
TOTAL CELLS/mL	313,870
NUMBER OF SPECIES	52
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Ankistrodesmus convolutus	227
Ankistrodesmus nannoselene	227
Crucigenia apiculata	1818
Dictyosphaerium sp.	1136
Pteromonas sp.	114
Scenedesmus armatus var. bicaudatus	454
Scenedesmus sp.	454
Schroederia setigera	227
Sphaerocystis schroeteri	909
Staurastrum orbiculare	114
CYANOPHYTA (blue-green algae)	
Anabaenopsis raciborskii ?	61344
Aphanocapsa delicatissima	39078
Aphanocapsa elachista	38624
Aphanocapsa elachista var. conferta	13178
Aphanothece saxicola	6816
Chroococcus limneticus	909
Chroococcus multicoloratus	20448
Chroococcus pallidus	2272
Chroococcus varius	1136
Chroococcus sp.	909
Dactylococcopsis fascicularis	2726
Gloeocapsa sp.	2272
Lyngbya limnetica	28627
Lyngbya nana	9770
Merismopedia punctata	3635
Merismopedia tenuissima	7270
Oscillatoria angustissima	7725
Oscillatoria limnetica	17040
Oscillatoria planctonica	682
Oscillatoria splendida	2272
Oscillatoria subtilissima	5680
Raphidiopsis curvata	2726
Spirulina laxa	341
Synechococcus aeruginosa	682
Synechococcus lineare	2272
Synechococcus sp. 1	24083
Synechococcus sp. 2	682
CRYPTOPHYTA (cryptomonads)	
Chroomonas sp.	1136
Cryptomonas sp.	227
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Biddulphia sp.	14
Coscinodiscus sp.	201
Cyclotella meneghiniana	21
Cyclotella stelligera	7
Melosira granulata	145
Melosira lirata	132
Melosira sp.	35
Stephanodiscus tenuis ?	7
Order Pennales	
Anomoeoneis fallis ?	205
Nitzschia acicularis	1226
Nitzschia palea	613
Nitzschia paleacea	409
Nitzschia subacicularis	613

Lewisville Lake EC (330959096565301)

Phytoplankton Analyses October 1985 to September 1986

Date	11-21-85
Time	1140
TOTAL CELLS/ml	54,671
NUMBER OF SPECIES	31
DEPTH COLLECTED (ft.)	0.7

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
Ankistrodesmus convolutus	454
Ankistrodesmus nannoselene	341
Chodatella subsalsa	227
Crucigenia sp	227
Kirchneriella lunaris	341
Mesotaenium sp.	227
Nephrocytium limneticum	454
Scenedesmus armatus var. bicaudatus	114
Schroederia setigera	114
Tetrastrum staurogeniaeforme	454
CYANOPHYTA (Blue-green algae)	
Aphanocapsa delicatissima	11360
Aphanocapsa elachista	795
Chroococcus pallidus	1590
Dactylococcopsis fascicularis	341
Lyngbya contorta	114
Lyngbya nana	227
Merismopedia tenuissima	20221
Microcystis marina ?	5453
Oscillatoria subtilissima	454
Synechococcus elongatus ?	1363
Synechococcus lineare var. spirale	7611
EUGLENOPHYTA (Euglenoids)	
Euglena intermedia	114
CRYPTOPHYTA (Cryptomonads)	
Chroomonas sp.	114
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
Cyclotella meneghiniana	1363
Cyclotella stelligera	114
Melosira distans	114
Order Pennales	
Navicula cryptocephala	28
Navicula symmetrica	114
Navicula halophila	114
Nitzschia frustulum	57
Nitzschia palea	57

Lewisville Lake EC (330959096565301)

Phytoplankton Analyses October 1985 to September 1986

Date	3-27-86
Time	1037
TOTAL CELLS/ml	8,184
NUMBER OF SPECIES	23
DEPTH COLLECTED (ft.)	0.4

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
Ankistrodesmus braunii	114
Ankistrodesmus convolutus	114
Ankistrodesmus falcatus	114
Ankistrodesmus nannoselene	114
Chodatella longiseta	114
Closterium sp.	114
Dysmorphococcus sp.	114
Gloeocystis sp.	341
Mesotaenium sp.	227
Nephrocytium limneticum	341
Scenedesmus quadricauda	682
CYANOPHYTA (Blue-green algae)	
Chroococcus limneticus	227
Chroococcus pallidus	454
Dactylococcopsis fascicularis	454
Synechococcus elongatus	341
CRYPTOPHYTA (Cryptomonads)	
Chroomonas sp.	341
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
Stephanodiscus dubius	39
Stephanodiscus hantzschii	2881
Stephanodiscus niagarae	355
Stephanodiscus tenuis	475
Order Pennales	
Navicula arvensis	76
Nitzschia acicularis	76
Nitzschia palea	76

LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

Lewisville Lake EC (330959096565301)

Phytoplankton Analyses October 1985 to September 1986

Date	8-14-86
Time	1029
TOTAL CELLS/mL	375,396
NUMBER OF SPECIES	49
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Chlorella sp.	3976
Chlorococcum sp.	1704
Crucigenia sp.	2272
Dictyosphaerium sp.	2272
Gloeocystis sp.	2840
Kirchneriella contorta	1704
Kirchneriella obesa	1136
Mesotaenium sp.	3408
Oocystis sp.	568
Scenedesmus acuminatus	2272
Scenedesmus armatus var. *bicaudatus*	1136
Scenedesmus dimorphus	1136
Scenedesmus sp.	1136
Tetraedron trigonum	568
Treubaria triappendiculata	568
CYANOPHYTA (blue-green algae)	
Anabaenopsis raciborskii ?	27264
Aphanocapsa delicatissima	5680
Aphanocapsa elachista	14768
Aphanocapsa elachista var. *conferta*	21584
Aphanothece saxicola	66456
Chroococcus multicoloratus	26696
Chroococcus turicensis	9088
Chroococcus sp.	15904
Dactylococcopsis fascicularis	2272
Lyngbya contorta	5346
Lyngbya limnetica	9088
Lyngbya nana	3408
Merismopedia tenuissima	29536
Oscillatoria angustissima	11360
Oscillatoria limnetica	33512
Oscillatoria splendida	4544
Oscillatoria subtilissima	21016
Romeria sp.	3976
Spirulina laxissima	3408
Synechococcus lineare	6248
Synechococcus sp.	18176
EUGLENOPHYTA (euglenoid algae)	
Euglena sp.	284
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Cyclotella meneghiniana	202
Cyclotella stelligera	675
Melosira granulata	1012
Melosira lirata	2699
Stephanodiscus tenuis ?	1215
Stephanodiscus sp.	1012
Order Pennales	
Anomoeoneis fallis ?	243
Diploneis sp.	568
Nitzschia acicularis	487
Nitzschia palea	568
Synedra acus	162
Synedra minuscula	243

Lewisville Lake GC (330944097003601)

Phytoplankton Analyses October 1985 to September 1986

Date	11-21-85
Time	1312
TOTAL CELLS/ml	2,870
NUMBER OF SPECIES	18
DEPTH COLLECTED (ft.)	0.4

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
Ankistrodesmus falcatus	57
Oocystis sp.	227
Scenedesmus serratus	114
Tetraedron minimum	57
CYANOPHYTA (Blue-green algae)	
Chroococcus dispersus	227
Chroococcus pallidus	170
EUGLENOPHYTA (Euglenoids)	
Trachelomonas volvocina	57
CRYPTOPHYTA (Cryptomonads)	
Chroomonas sp.	284
Cryptomonas ovalis	114
Cryptomonas sp.	57
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
Cyclotella meneghiniana	57
Melosira distans	852
Melosira granulata	284
Order Pennales	
Navicula halophila	57
Nitzschia acicularis	57
Nitzschia frustulum	28
Nitzschia palea	57
Nitzschia paleacea	114

Lewisville Lake GC (330944097003601)

Phytoplankton Analyses October 1985 to September 1986

Date	3-27-86
Time	1134
TOTAL CELLS/ml	18,404
NUMBER OF SPECIES	29
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
Ankistrodesmus braunii	227
Ankistrodesmus convolutus	227
Ankistrodesmus falcatus	454
Ankistrodesmus nannoselene	114
Chlamydomonas sp. 3	114
Chlorococcum sp.	568
Chodatella longiseta	227
Closterium sp.	114
Dysmorphococcus sp.	114
Gloeocystis sp.	114
Kirchneriella lunaris	909
Kirchneriella subsolitaria	795
Mesotaenium sp.	341
Nephrocytium limneticum	227
Tetrastrum staurogeniaeforme	454
CYANOPHYTA (Blue-green algae)	
Aphanocapsa elachista	454
Chroococcus limneticus	2386
Chroococcus pallidus	227
Dactylococcopsis fascicularis	454
Dactylococcopsis raphidioides	114
Microcystis sp.	1818
Synechococcus elongatus	1477
CRYPTOPHYTA (Cryptomonads)	
Chroomonas sp.	227
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
Melosira granulata	55
Melosira lirata	1136
Stephanodiscus dubius	165
Stephanodiscus hantzschii	3848
Stephanodiscus niagarae	879
Stephanodiscus tenuis	165

LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

Lewisville Lake GC (330944097003601)

Phytoplankton Analyses October 1985 to September 1986

Date	8-14-86
Time	1105
TOTAL CELLS/mL	428,272
NUMBER OF SPECIES	60
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Ankistrodesmus convolutus	568
Carteria sp.	568
Chlamydomonas sp.	1136
Chlorococcum sp.	5112
Franceia ovalis	2272
Gloeocystis sp.	1136
Kirchneriella lunaris	7384
Kirchneriella obesa	2840
Mesotaenium sp.	568
Micratinium sp.	4544
Phacotus lenticularis	2272
Scenedesmus dimorphus	1136
Scenedesmus quadricauda var. *maximus*	2272
Scenedesmus sp.	1136
Tetraedron caudatum	568
Tetraedron trigonum var. *gracile*	568
Tetrastrum heteracanthum	1136
Tetrastrum minimum	568
Treubaria triappendiculata	1136
CYANOPHYTA (blue-green algae)	
Anabaenopsis raciborskii ?	21584
Anabaenopsis sp.	7952
Aphanocapsa delicatissima	95992
Aphanocapsa elachista	22720
Aphanocapsa elachista var. *conferta*	10224
Aphanothece sp.	9088
Chroococcus limneticus	852
Chroococcus multicoloratus	9656
Chroococcus prescottii ?	12496
Chroococcus turicensis	9088
Chroococcus varius	4544
Dactylococcopsis fascicularis	2272
Lyngbya contorta	10224
Lyngbya limnetica	6816
Lyngbya nana	9088
Merismopedia punctata	6816
Merismopedia tenuissima	22720
Microcystis sp.	13064
Oscillatoria angustissima	11360
Oscillatoria limnetica	17040
Oscillatoria planctonica	7384
Pseudoanabaena sp.	3408
Romeria sp.	2272
Spirulina laxa	12496
Spirulina laxissima	1136
Synechococcus lineare	1704
Synechococcus sp.	10224
Synechocystis sp.	568
EUGLENOPHYTA (euglenoid algae)	
Euglena sp.	568
Gonyostomum semen	284
Phacus sp.	284
CRYPTOPHYTA (cryptomonads)	
Chroomonas sp.	1136
Cryptomonas sp.	1704
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Coscinodiscus sp.	284
Melosira granulata	2272
Melosira lirata	5680
Stephanodiscus tenuis ?	22720
Order Pennales	
Anomoeoneis fallis ?	568
Nitzschia palea	5112
Nitzschia paleacea	5680
Nitzschia sp.	2272

08053000 ELM FORK TRINITY RIVER NEAR LEWISVILLE, TX

LOCATION (revised).--Lat 33°02'44", long 96°57'39", Denton County, Hydrologic Unit 12030103, on left bank at downstream edge of highway right-of-way 90 ft left of left end of bridge on State Highway 121, 1.8 mi east of Lewisville 1.9 mi downstream from Lewisville Lake, 8.3 mi upstream from Denton Creek, and 28.2 mi upstream from mouth.

DRAINAGE AREA.--1,673 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1949 to current year.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 432.39 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Jan. 6, 1950, nonrecording gage 0.6 mi upstream at datum 3.26 ft lower.

REMARKS.--Estimated daily discharges: Dec. 2-5 and July 5-7. Records good. Flow regulated by Lewisville Lake (see station 08052800) since November 1954. Most of low flow is used by city of Dallas for municipal supply (see station 08055500). Gage-height telemeter at station.

AVERAGE DISCHARGE.--5 years (water years 1950-54), prior to regulation, 402 ft³/s (291,200 acre-ft/yr); 31 years (water years 1955-86), regulated, 655 ft³/s (474,500 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,700 ft³/s Sept. 15, 1950 (gage height, 30.75 ft); minimum daily, 0.8 ft³/s Jan. 19, 1955. Maximum discharge since construction of Lewisville Dam in 1954, 15,000 ft³/s (gage height, 27.83 ft) Nov. 2, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1907, 33.8 ft in 1908, present site and datum, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,420 ft³/s June 20 at 1430 hours (gage height, 20.50 ft); minimum daily, 45 ft³/s Nov. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	152	105	195	155	122	967	132	887	3200	3980	392	299
2	151	102	187	156	122	961	133	1010	587	3990	368	426
3	170	102	186	142	192	693	148	1220	272	3990	368	233
4	195	92	186	109	83	366	182	1230	233	3170	316	187
5	182	90	186	109	161	360	239	1220	354	172	251	223
6	217	93	186	114	511	358	102	1220	337	152	261	194
7	254	102	185	132	1580	355	113	1250	930	1040	254	210
8	239	103	188	133	2360	354	133	1250	2040	1820	262	646
9	224	90	189	119	2400	353	471	1260	1860	2540	309	1670
10	238	81	188	87	2510	371	916	1420	1990	3350	286	3220
11	198	75	191	91	3290	336	913	1290	3190	3780	254	3740
12	171	75	187	117	3550	244	1120	1470	3720	3850	236	3500
13	199	75	186	154	3910	185	915	2280	3760	3860	209	1780
14	189	75	185	174	3980	139	1330	2970	3480	3860	170	1120
15	166	100	184	141	3970	125	1950	3060	3830	3570	189	974
16	176	45	184	129	3970	122	1960	3070	3680	2390	232	548
17	180	46	183	137	3960	121	1960	2840	3590	807	231	464
18	200	49	183	132	3950	136	1540	301	3940	418	235	356
19	225	61	184	123	3940	122	765	111	4310	451	257	355
20	148	55	184	123	3920	120	216	738	4400	439	266	353
21	140	80	184	123	3890	120	133	1960	4370	433	256	352
22	139	132	184	122	3890	120	653	2980	4210	439	252	293
23	139	133	165	118	3880	133	1430	3090	4050	434	241	211
24	170	133	139	111	3870	184	1440	3060	4000	433	241	179
25	183	146	138	111	3860	192	1180	619	3990	431	246	166
26	153	238	149	111	3440	163	852	239	3990	427	242	220
27	156	197	141	111	1730	199	846	836	3980	424	238	244
28	176	184	141	111	1310	181	840	2350	3980	421	220	216
29	178	181	140	111	---	169	834	3040	3970	416	196	219
30	116	183	140	116	---	180	831	3110	3970	403	207	214
31	109	---	146	121	---	153	---	3160	---	408	219	---
TOTAL	5533	3223	5394	3843	74351	8582	24277	54541	90213	52298	7904	22812
MEAN	178	107	174	124	2655	277	809	1759	3007	1687	255	760
MAX	254	238	195	174	3980	967	1960	3160	4400	3990	392	3740
MIN	109	45	138	87	83	120	102	111	233	152	170	166
AC-FT	10970	6390	10700	7620	147500	17020	48150	108200	178900	103700	15680	45250

CAL YR 1985 TOTAL 274515 MEAN 752 MAX 4230 MIN 45 AC-FT 544500
WTR YR 1986 TOTAL 352971 MEAN 967 MAX 4400 MIN 45 AC-FT 700100

08053000 ELM FORK TRINITY RIVER NEAR LEWISVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1981 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1981 to current year.
WATER TEMPERATURES: November 1976 to current year.

INSTRUMENTATION.--Water temperature was recorded continuously at this station (November 1976 to September 1980).

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 790 microsiemens Nov. 14, 1983; minimum daily, 200 microsiemens May 13, 1982.
WATER TEMPERATURES: Maximum, 33.0°C July 27, 1977; minimum, 0.0°C Jan. 31 and Feb. 9, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 474 microsiemens May 19; minimum daily, 308 microsiemens Sept. 10, 12.
WATER TEMPERATURES: Maximum daily, 32.0°C Aug. 17, 20; minimum daily, 4.0°C Jan. 27.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
OCT 30...	1200	113	380	8.10	19.0	10	18	7.6	83	0.5	130	31
JAN 28...	1400	111	380	8.45	9.0	--	--	12.8	--	0.7	130	19
MAR 19...	1035	137	349	7.90	11.5	10	34	10.9	101	--	110	16
SEP 05...	1045	259	344	7.90	24.5	30	110	--	--	1.3	120	26

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
OCT 30...	44	4.5	27	1	5.0	97	41	38	0.3	1.6	220
JAN 28...	43	4.3	27	1	4.9	106	38	27	0.3	2.3	210
MAR 19...	39	3.9	19	0.8	4.7	97	36	19	0.3	3.3	180
SEP 05...	40	3.8	20	0.8	4.8	90	40	19	0.3	4.8	190

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DISSOLVED (UG/L AS AS)
OCT 30...	--	--	0.19	0.01	0.20	--	--	0.5	0.34	5.7	--
JAN 28...	--	--	--	--	--	--	--	--	--	--	2
MAR 19...	39	10	0.76	0.04	0.80	0.12	0.68	0.8	0.06	5.2	--
SEP 05...	284	27	0.24	0.06	0.30	0.20	0.8	1.0	0.19	11	3

DATE	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 30...	--	--	--	--	--	--	--	--	--	--	--
JAN 28...	50	<1	<10	<1	8	<1	11	0.1	<1	7	15
MAR 19...	--	--	--	--	--	--	--	--	--	--	--
SEP 05...	39	<1	<10	2	11	<5	25	0.1	<1	<1	<3

08053000 ELM FORK TRINITY RIVER NEAR LEWISVILLE, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	5533	370	205	3060	25	378	36	545	130
NOV. 1985	3223	395	218	1900	28	245	41	360	130
DEC. 1985	5394	371	205	2990	25	370	37	534	130
JAN. 1986	3843	365	202	2100	25	258	36	371	130
FEB. 1986	74351	343	190	38100	23	4520	32	6350	120
MAR. 1986	8582	355	196	4550	24	550	34	782	120
APR. 1986	24277	354	196	12800	24	1550	34	2200	120
MAY 1986	54541	351	194	28600	23	3440	33	4870	120
JUNE 1986	90213	336	186	45400	22	5320	30	7430	120
JULY 1986	52298	334	185	26100	22	3050	30	4250	120
AUG. 1986	7904	331	184	3920	21	456	30	633	120
SEPT 1986	22812	317	176	10800	20	1230	27	1690	120
TOTAL	352971	**	**	180000	**	21400	**	30000	**
WTD.AVG.	967	342	189	**	22	**	31	**	120

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	362	387	381	380	348	345	379	348	351	340	327	333
2	365	398	361	342	356	341	336	352	412	335	327	371
3	367	395	364	337	441	351	343	351	445	334	320	362
4	365	406	367	346	440	352	338	352	408	334	336	365
5	366	405	368	343	400	350	344	351	391	397	336	344
6	360	402	377	384	366	351	343	350	382	344	335	339
7	360	393	375	384	345	346	383	352	342	340	336	342
8	360	388	370	384	351	350	385	351	335	341	328	310
9	360	398	372	380	349	335	375	352	342	332	337	311
10	361	400	370	395	342	340	348	357	341	328	329	308
11	363	402	371	397	344	348	347	353	331	329	330	309
12	365	401	371	379	345	360	348	349	331	335	330	308
13	364	397	370	370	343	362	355	348	332	326	337	311
14	361	420	369	369	342	378	345	349	332	324	336	309
15	370	461	370	383	344	380	344	359	338	326	338	317
16	369	422	368	381	343	372	348	348	333	324	333	316
17	370	420	367	384	341	377	347	371	336	334	331	335
18	367	419	370	386	340	377	344	433	335	364	331	332
19	343	420	371	349	341	379	432	474	335	360	330	329
20	376	431	375	336	342	383	419	336	334	354	329	330
21	376	375	370	384	342	380	401	344	335	361	328	325
22	376	373	372	382	340	377	399	343	334	362	330	336
23	378	375	378	385	343	369	348	340	335	351	328	334
24	379	360	376	389	340	375	347	342	337	350	334	349
25	368	359	380	343	341	378	348	383	335	349	332	348
26	377	421	378	325	338	380	352	380	333	346	332	347
27	370	419	377	350	339	364	353	385	332	350	332	340
28	418	377	376	337	326	362	351	345	331	340	333	339
29	416	369	375	348	---	369	352	340	328	343	332	338
30	385	368	374	341	---	339	351	342	335	324	333	341
31	384	---	332	328	---	372	---	360	---	324	335	---
MEAN	371	399	371	365	353	363	360	359	347	342	332	333

08053000 ELM FORK TRINITY RIVER NEAR LEWISVILLE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	18.0	12.0	9.0	11.0	11.0	15.0	18.0	23.0	24.0	27.0	26.0
2	21.0	18.0	11.0	8.0	13.0	12.0	15.0	19.0	22.0	24.0	29.0	27.0
3	21.0	18.0	11.0	9.0	11.0	11.0	16.0	20.0	22.0	24.0	28.0	28.0
4	21.0	19.0	12.0	7.0	11.0	11.0	16.0	20.0	22.0	26.0	28.0	---
5	21.0	18.0	11.0	6.0	12.0	10.0	17.0	19.0	21.0	25.0	28.0	27.0
6	20.0	19.0	10.0	7.0	11.0	10.0	18.0	19.0	22.0	25.0	28.0	28.0
7	21.0	18.0	14.0	7.0	11.0	11.0	10.0	19.0	21.0	25.0	28.0	27.0
8	21.0	18.0	11.0	6.0	10.0	13.0	18.0	20.0	22.0	25.0	28.0	26.0
9	21.0	19.0	11.0	6.0	9.0	14.0	18.0	19.0	23.0	25.0	28.0	26.0
10	21.0	18.0	9.0	6.0	8.0	14.0	17.0	21.0	23.0	25.0	29.0	26.0
11	20.0	16.0	8.0	11.0	8.0	13.0	17.0	22.0	23.0	26.0	28.0	26.0
12	21.0	17.0	8.0	9.0	8.0	12.0	17.0	21.0	23.0	26.0	28.0	25.0
13	22.0	17.0	7.0	8.0	8.0	12.0	18.0	20.0	23.0	27.0	28.0	27.0
14	21.0	17.0	10.0	7.0	8.0	13.0	18.0	20.0	25.0	26.0	29.0	26.0
15	21.0	17.0	8.0	8.0	10.0	13.0	18.0	21.0	25.0	26.0	29.0	26.0
16	20.0	16.0	9.0	8.0	9.0	14.0	18.0	21.0	24.0	27.0	31.0	26.0
17	21.0	16.0	8.0	8.0	10.0	14.0	18.0	21.0	25.0	26.0	32.0	26.0
18	20.0	16.0	8.0	10.0	9.0	13.0	18.0	22.0	25.0	26.0	31.0	26.0
19	22.0	16.0	8.0	8.0	8.0	13.0	17.0	24.0	24.0	26.0	31.0	26.0
20	22.0	14.0	8.0	10.0	9.0	13.0	17.0	23.0	26.0	26.0	32.0	28.0
21	21.0	15.0	10.0	9.0	8.0	13.0	18.0	21.0	26.0	26.0	31.0	28.0
22	21.0	15.0	9.0	8.0	11.0	16.0	18.0	22.0	26.0	26.0	30.0	27.0
23	21.0	18.0	9.0	7.0	10.0	14.0	18.0	---	26.0	26.0	28.0	27.0
24	21.0	15.0	10.0	8.0	10.0	14.0	18.0	22.0	26.0	25.0	30.0	27.0
25	21.0	16.0	---	8.0	10.0	14.0	18.0	22.0	26.0	26.0	30.0	27.0
26	22.0	16.0	8.0	8.0	10.0	14.0	19.0	23.0	26.0	27.0	30.0	27.0
27	22.0	15.0	9.0	4.0	10.0	14.0	19.0	22.0	26.0	26.0	30.0	29.0
28	20.0	14.0	9.0	10.0	---	14.0	19.0	22.0	26.0	26.0	30.0	29.0
29	20.0	14.0	8.0	7.0	---	15.0	19.0	22.0	27.0	26.0	29.0	29.0
30	19.0	16.0	10.0	9.0	---	15.0	19.0	22.0	24.0	26.0	28.0	28.0
31	18.0	---	11.0	14.0	---	15.0	---	22.0	---	26.0	28.0	---
MEAN	21.0	16.5	9.5	8.0	9.5	13.0	17.5	21.0	24.0	25.5	29.0	27.0

08053500 DENTON CREEK NEAR JUSTIN, TX

LOCATION.--Lat 33°07'08", long 97°17'25", Denton County, Hydrologic Unit 12030104, on right bank at downstream side of bridge on Farm Road 156, 100 ft upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 2.2 mi north of Justin, 3.0 mi upstream from Olivers Creek, 12.9 mi upstream from Harriet Creek, and 32.9 mi upstream from Grapevine Dam.

DRAINAGE AREA.--400 mi².

PERIOD OF RECORD.--October 1949 to current year.
Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

REVISED RECORDS.--WSP 1732: 1950(M). WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 606.66 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges for Oct. 27, 28 with little or no loss in accuracy. Records good. Several small diversions above station. Flow is affected at times by discharge from the flood-detention pools of 84 floodwater-retarding structures with a combined detention capacity of 52,750 acre-ft. These structures control runoff from 197 mi² in the Denton Creek watershed. Gage-height telemeter at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years (water years 1950-80) prior to completion of floodwater-retarding structures, 77.4 ft³/s (56,080 acre-ft/yr); 6 years (water years 1981-86) after completion of floodwater-retarding structures, 149 ft³/s (108,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,700 ft³/s Oct. 13, 1981 (gage height, 18.68 ft), from high-water mark; no flow at times in 1949-65, 1967-74, 1976-85.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1935 was the highest since 1908 and reached a stage of 20.6 ft at site about 1,500 ft upstream, from information by local resident. Flood in May 1908 reached a stage about 1.0 ft higher than flood in May 1935, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,120 ft³/s May 24 at 1945 hours (gage height, 14.00 ft); minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	44	25	19	15	25	25	826	1050	34	2.2	91
2	.00	38	29	19	20	25	24	262	1040	33	2.0	343
3	.00	34	24	18	1480	25	24	91	776	32	2.6	115
4	.00	31	22	17	150	25	611	54	579	32	19	205
5	.00	29	21	17	137	25	329	41	1740	30	18	932
6	.00	28	19	16	373	25	138	36	1590	26	12	2060
7	.00	27	19	17	124	25	76	32	699	24	8.2	1340
8	.00	26	18	17	82	24	56	29	932	23	7.0	706
9	.00	25	17	14	67	24	46	45	941	21	6.1	357
10	.00	25	19	15	60	26	40	1550	453	20	6.6	225
11	.00	24	20	14	52	29	38	2000	2070	19	7.1	156
12	.00	23	20	15	47	33	88	829	1210	17	7.1	117
13	.00	23	21	15	45	38	63	511	594	17	7.1	93
14	.00	22	18	15	43	40	46	263	298	16	6.5	77
15	.00	23	18	15	41	38	37	150	228	15	4.8	66
16	.00	25	19	16	39	34	32	103	280	14	3.6	56
17	.00	22	19	16	38	32	31	183	268	13	2.7	45
18	172	21	24	17	36	33	30	490	158	12	2.2	34
19	1970	23	23	16	34	42	41	361	113	12	2.2	29
20	1180	28	21	16	32	40	469	160	111	12	2.2	26
21	736	22	22	16	31	34	164	99	87	10	2.2	25
22	594	21	20	15	29	31	86	75	72	10	2.1	24
23	490	21	20	14	28	30	62	60	63	10	1.8	23
24	374	20	20	14	28	28	50	1250	64	11	1.4	22
25	251	20	19	14	28	27	43	1440	58	9.5	1.1	20
26	189	21	18	14	28	27	39	574	52	8.1	.81	19
27	121	31	18	14	28	27	36	361	48	6.7	.45	17
28	74	28	19	14	27	27	35	231	45	5.8	.24	17
29	60	24	19	14	---	26	34	142	41	4.8	.17	17
30	57	22	19	14	---	26	42	99	37	3.8	.10	17
31	52	---	20	15	---	25	---	448	---	3.0	.04	---
TOTAL	6320.00	771	630	482	3142	916	2835	12795	15697	504.7	139.61	7274
MEAN	204	25.7	20.3	15.5	112	29.5	94.5	413	523	16.3	4.50	242
MAX	1970	44	29	19	1480	42	611	2000	2070	34	19	2060
MIN	.00	20	17	14	15	24	24	29	37	3.0	.04	17
AC-FT	12540	1530	1250	956	6230	1820	5620	25380	31130	1000	277	14430

CAL YR 1985 TOTAL 38523.91 MEAN 106 MAX 2130 MIN .00 AC-FT 76410
WTR YR 1986 TOTAL 51506.31 MEAN 141 MAX 2070 MIN .00 AC-FT 102200

08054500 GRAPEVINE LAKE NEAR GRAPEVINE, TX

LOCATION.--Lat 32°58'21", long 97°03'22", Tarrant County, Hydrologic Unit 12030104, in intake structure of Grapevine Dam on Denton Creek, 2.7 mi northeast of Grapevine, 4.3 mi upstream from bridge on State Highway 121, and 11.7 mi upstream from mouth.

DRAINAGE AREA.--695 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1952 to current year. Prior to October 1970, published as Grapevine Reservoir.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 16, 1953, nonrecording gage at site 1,000 ft upstream at present datum.

REMARKS.--The lake is formed by a rolled earthfill dam 12,850 ft long, including a 500-foot uncontrolled off-channel concrete-gravity spillway with an ogee weir section. The dam was completed in June 1952, and deliberate impoundment began July 3, 1952. The controlled outlet works consist of a 13.0-foot-diameter concrete conduit that is controlled by two 6.5- by 13.0-foot broome-type gates and two 30-inch steel pipes with service valves. The capacity table, used since April 1972, is based on a survey made in October 1966. The lake was built for flood control, navigation, and water conservation. The city of Dallas uses part of this water for their municipal supply. An unknown amount of water is diverted for industrial and municipal uses. Inflow is affected at times by discharge from the flood-detention pools of 87 floodwater-retarding structures with a combined detention capacity of 57,850 acre-ft. These structures control runoff from 217 mi² in the Denton Creek watershed. A gage-height tlelemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	588.0	-
Crest of spillway...	560.0	425,500
Top of conservation pool..................................	535.0	181,100
Lowest intake to wet wells (invert).......................	500.5	22,140
Invert of two broome-type gates...........................	475.0	100

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 471,200 acre-ft Nov. 1, 1981 (elevation, 563.29 ft); minimum since lake first filled in 1957, 94,480 acre-ft Feb. 26, 1979 (elevation, 520.67 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 242,000 acre-ft June 12 at 1600 hours (elevation, 542.64 ft); minimum daily, 149,000 acre-ft Oct. 18 at 0200 hours (elevation, 530.33 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

530.0	146,800	536.0	188,500	542.0	236,500
533.0	166,800	539.0	211,500	545.0	263,300

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	152200	163000	161500	159400	155700	181900	180600	188200	208900	196800	176600	168900
2	152000	162900	161300	159300	156100	182000	180400	188800	214200	194100	176200	170500
3	151600	162700	161100	159200	172900	182100	181800	188800	218700	190100	176600	171000
4	151400	162600	161200	159200	174200	182100	183300	188700	220900	188800	176300	171500
5	151100	162400	161100	158900	176100	182100	184200	188500	224700	187800	176000	173100
6	150600	162300	161100	158700	179000	182000	184500	188300	228700	186200	175700	178400
7	150400	162100	161000	158700	180000	182000	184600	188100	229500	184700	175300	181500
8	150200	161900	160900	158500	180400	182000	184500	188200	233800	183500	175100	182900
9	149800	161900	160900	158300	180700	182100	184200	188500	238000	183200	174800	183400
10	149900	161700	161400	158200	181000	182100	184000	190500	238300	182700	174600	184300
11	149500	161600	161100	158100	181000	182200	183700	195000	241100	182300	174300	184400
12	149500	161500	161200	158000	181200	182600	184200	196700	241800	182000	174000	184500
13	149200	161400	160900	157800	181300	182900	184200	196800	239800	181600	173600	184700
14	149300	161300	160800	157700	181500	182900	184000	195900	236700	181200	173300	184600
15	149300	162000	160700	157600	181500	182900	183800	194500	235400	180900	173000	184800
16	149200	161800	160700	157600	181700	182700	183400	192900	234300	180600	172700	184600
17	149100	161700	160600	157500	181800	182600	183200	194600	232700	180300	172500	184500
18	149000	161800	160600	157500	181900	183000	183200	196200	230400	180100	172000	184200
19	149200	161800	160600	157300	182000	182800	184800	197000	228000	179800	171800	184000
20	152400	161500	160500	157200	182200	182600	186500	197000	225700	179600	171500	183600
21	158600	161300	160400	157200	182100	182300	186500	196000	223200	179400	171000	183300
22	160000	161100	160600	157000	182000	182000	186400	194200	220400	179400	170700	182900
23	160900	161100	160400	156800	182100	181800	186200	192600	217800	179200	170300	182600
24	161800	161000	160300	156800	182100	181600	186200	197200	215500	178900	170100	182100
25	162400	160900	160100	156700	182100	181300	185800	204500	213000	178600	169600	181700
26	162800	161700	160000	156500	182100	181300	185500	206300	209000	178400	169400	181300
27	163000	161700	159900	156200	182200	181300	185500	206600	208300	178100	169400	181000
28	163200	161600	159800	156100	182100	181100	185400	205600	205400	177800	168900	180700
29	163400	161500	159600	156000	---	181000	185100	204300	202400	177500	168600	180500
30	163500	161800	159600	155900	---	180700	185400	202700	199500	177200	168100	180300
31	163100	---	159500	155800	---	180700	---	203800	---	176900	167700	---
MAX	163500	163000	161500	159400	182200	183000	186500	206600	241800	196800	176600	184800
MIN	149000	160900	159500	155800	155700	180700	180400	188100	199500	176900	167700	168900
(†)	532.46	532.27	531.93	531.38	535.13	534.95	535 59	538.03	537.47	534.42	533.12	534.89
(♦)	+10500	-1300	-2300	-3700	+26300	-1400	. . . .	+18400	-4300	-22600	-9200	+12600

CAL YR 1985 MAX 201600 MIN 119900 (♦) +46100
WTR YR 1986 MAX 241800 MIN 149000 (♦) +27700

(†) Elevation, in feet, at end of month.
(♦) Change in contents, in acre-feet.

08054500 GRAPEVINE LAKE NEAR GRAPEVINE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1969 to current year.

325751097033001 - GRAPEVINE LAKE SITE AR

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
MAR							
26...	1045	1.00	350	8.20	15.0	8.2	82
26...	1046	10.0	350	8.20	15.0	8.2	82
26...	1047	20.0	350	8.20	15.0	8.2	82
26...	1048	30.0	350	8.20	15.0	8.1	81
26...	1049	40.0	350	8.10	15.0	7.8	78
AUG							
13...	0929	1.00	332	8.00	28.5	4.5	--
13...	0931	10.0	332	7.80	28.5	3.6	--
13...	0933	20.0	332	7.60	28.5	2.2	--
13...	0935	25.0	334	7.60	28.0	1.0	--
13...	0937	34.0	341	7.60	27.0	1.0	13

325822097030401 - GRAPEVINE LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
MAR												
26...	1011	1.00	350	8.20	15.5	0.9	8.2	82	--	--	140	10
26...	1012	1.00	--	--	--	--	--	--	--	--	--	--
26...	1013	10.0	350	8.20	15.5	--	8.2	82	--	--	--	--
26...	1014	20.0	350	8.20	15.0	--	8.1	81	--	--	--	--
26...	1015	30.0	350	8.10	15.0	--	8.1	81	--	--	--	--
26...	1016	40.0	350	8.10	15.0	--	8.1	81	--	--	--	--
26...	1017	53.0	350	8.10	15.0	--	7.9	79	--	--	130	23
AUG												
13...	0851	1.00	330	7.40	24.0	1.80	1.0	12	K4	<2	120	9
13...	0852	1.00	--	--	--	--	--	--	--	--	--	--
13...	0853	10.0	330	7.90	28.5	--	5.0	--	--	--	--	--
13...	0855	20.0	331	7.60	28.5	--	2.5	--	--	--	--	--
13...	0857	25.0	333	7.50	28.0	--	1.0	--	--	--	--	--
13...	0859	30.0	338	7.50	27.0	--	1.0	13	--	--	--	--
13...	0901	40.0	352	7.40	24.0	--	1.0	12	--	--	--	--
13...	0903	51.0	361	7.60	23.0	--	1.0	12	--	--	140	6

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
MAR											
26...	44	6.2	20	0.8	4.7	125	20	26	0.3	2.4	200
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	43	6.1	19	0.7	4.6	110	22	25	--	2.4	190
AUG											
13...	39	5.7	15	0.6	4.7	112	22	21	0.3	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	45	5.9	16	0.6	4.6	131	17	22	--	8.2	200

325822097030401 - GRAPEVINE LAKE SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
MAR											
26...	9	0.28	0.02	0.30	0.09	0.41	0.5	0.03	9	8	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	0.29	0.01	0.30	0.08	0.42	0.5	0.03	10	<10	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	0.28	0.02	0.30	0.10	0.6	0.7	0.03	18	5	--
AUG											
13...	<1	--	<0.01	<0.10	0.03	0.57	0.6	0.02	<20	10	<1
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	<0.01	<0.10	0.02	0.48	0.5	0.02	50	140	--
13...	--	--	<0.01	<0.10	0.02	0.48	0.5	0.04	100	110	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	<0.01	<0.10	1.00	0.6	1.6	0.20	440	1300	--

325930097053801 - GRAPEVINE LAKE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
MAR										
26...	1115	1.00	351	8.30	16.0	0.8	8.3	84	140	10
26...	1116	10.0	351	8.30	15.5	--	8.2	82	--	--
26...	1117	20.0	351	8.20	15.5	--	8.1	81	--	--
26...	1118	30.0	351	8.20	15.5	--	8.1	81	--	--
26...	1119	40.0	351	8.20	15.5	--	8.0	80	--	--
26...	1120	50.0	351	8.20	15.0	--	8.0	80	140	10
AUG										
13...	0951	1.00	330	8.40	29.5	1.30	5.4	--	130	13
13...	0953	10.0	330	8.40	29.5	--	5.4	--	--	--
13...	0955	20.0	330	8.30	29.0	--	5.4	--	--	--
13...	0957	25.0	330	8.10	29.0	--	5.3	--	--	--
13...	0959	30.0	340	7.40	27.5	--	1.0	--	--	--
13...	1001	40.0	355	7.30	24.5	--	1.0	12	--	--
13...	1003	46.0	359	7.50	24.0	--	1.0	12	140	6

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
MAR										
26...	44	6.2	20	0.8	4.6	125	21	25	2.3	200
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	44	6.1	19	0.7	4.6	125	22	24	2.3	200
AUG										
13...	41	5.5	17	0.7	5.1	112	24	21	4.6	190
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
13...	45	5.9	18	0.7	5.0	131	16	21	8.4	200

GRAPEVINE LAKE NEAR GRAPEVINE, TX--Continued

325930097053801 - GRAPEVINE LAKE SITE BC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAR										
26...	--	0.28	0.02	0.30	0.07	0.53	0.6	0.03	<3	<1
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	0.28	0.02	0.30	0.07	0.43	0.5	0.03	20	<10
26...	--	--	--	--	--	--	--	--	--	--
26...	--	0.28	0.02	0.30	0.09	0.41	0.5	0.03	7	7
AUG										
13...	4	--	<0.01	<0.10	0.08	0.42	0.5	0.02	25	21
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	<0.01	<0.10	0.04	0.46	0.5	0.03	30	100
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	<0.01	<0.10	0.25	0.65	0.9	0.05	220	790
13...	--	--	--	--	--	--	--	--	--	--
13...	42	--	<0.01	<0.10	1.10	0.5	1.6	0.19	520	1200

325933097081401 - GRAPEVINE LAKE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
MAR							
26...	1201	1.00	352	8.30	16.0	8.3	84
26...	1202	10.0	352	8.30	16.0	8.2	83
26...	1203	17.0	352	8.30	16.0	8.2	83
AUG							
13...	1113	1.00	330	8.50	30.0	5.8	--
13...	1115	10.0	330	8.50	30.0	5.7	--
13...	1117	20.0	329	8.50	29.5	5.5	--

330106097094601 - GRAPEVINE LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
MAR							
26...	1221	1.00	380	8.50	17.0	8.9	92
26...	1222	15.0	380	8.50	17.0	8.5	88
AUG							
13...	1031	1.00	335	8.50	30.0	5.6	--
13...	1033	12.0	342	8.40	30.0	5.2	--

330207097103701 - GRAPEVINE LAKE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
MAR											
26...	1231	1.00	396	8.70	18.0	0.2	8.9	94	--	--	150
26...	1232	0.4	--	--	--	--	--	--	--	--	--
26...	1233	9.00	392	8.60	17.0	--	8.4	87	--	--	150
AUG											
13...	1043	1.00	346	8.40	30.0	0.5	5.4	--	K16	K36	130
13...	1044	1.00	--	--	--	--	--	--	--	--	--
13...	1045	8.00	342	8.40	29.0	--	5.4	--	--	--	130

GRAPEVINE LAKE NEAR GRAPEVINE, TX--Continued

330207097103701 - GRAPEVINE LAKE SITE EC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
MAR 26...	27	50	6.9	22	0.8	4.5	126	26	28	1.4	210
26...	--	--	--	--	--	--	--	--	--	--	--
26...	23	49	6.9	22	0.8	4.5	128	29	28	1.4	220
AUG 13...	17	41	6.0	18	0.7	5.1	110	25	23	5.9	190
13...	--	--	--	--	--	--	--	--	--	--	--
13...	15	41	5.9	18	0.7	5.1	112	25	21	5.7	190

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAR 26...	13	0.08	0.02	0.10	0.02	0.58	0.6	0.04	11	1
26...	--	--	--	--	--	--	--	--	--	--
26...	21	0.09	0.01	0.10	0.02	0.58	0.6	0.04	5	2
AUG 13...	25	--	0.01	<0.10	0.05	0.75	0.8	0.05	18	3
13...	--	--	--	--	--	--	--	--	--	--
13...	13	--	0.01	<0.10	0.05	0.85	0.9	0.05	9	2

GRAPEVINE LAKE NEAR GRAPEVINE, TX--Continued

Grapevine Lake AC (325822097030401)

Phytoplankton Analyses October 1985 to September 1986

Date	3-26-86
Time	1012
TOTAL CELLS/mL	29,579
NUMBER OF SPECIES	17
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Ankistrodesmus nannoselene	114
Chlorococcum sp.	1363
Mesotaenium sp.	114
Scenedesmus quadricauda	682
CYANOPHYTA (blue-green algae)	
Aphanocapsa delicatissima	5680
Chroococcus limneticus	341
Dactylococcopsis fascicularis	454
Synechococcus elongatus	12723
Synechococcus lineare	454
CRYPTOPHYTA (cryptomonads)	
Chilomonas sp.	341
Cryptomonas sp.	1477
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Stephanodiscus hantzschii	682
Stephanodiscus niagarae	227
Stephanodiscus tenuis	4771
Order Pennales	
Navicula exigua	28
Nitzschia acicularis	114
Surirella ovalis var. *pyriformis*	14

Grapevine Lake AC (325822097030401)

Phytoplankton Analyses October 1985 to September 1986

Date	8-13-86
Time	0852
TOTAL CELLS/mL	413,306
NUMBER OF SPECIES	37
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Chlamydomonas sp. 1	568
Chlamydomonas sp. 2	568
Franceia sp.	568
Scenedesmus sp.	3408
Spondylosium planum	1136
CYANOPHYTA (blue-green algae)	
Anabaenopsis raciborskii ?	53392
Anabaenopsis sp.	12496
Aphanocapsa delicatissima	37488
Aphanocapsa elachista	12496
Aphanothece saxicola	39760
Aphanothece sp.	3976
Chroococcus limneticus	1136
Chroococcus varius	2272
Coelosphaerium kuetzingianum	3408
Dactylococcopsis fascicularis	13632
Lyngbya limnetica	59072
Lyngbya nana	17608
Microcystis sp.	3408
Oscillatoria limnetica	1704
Oscillatoria planctonica	7952
Oscillatoria subtilissima	6816
Spirulina laxa	6248
Spirulina laxissima	9088
Synechococcus aeruginosa	114
Synechococcus sp.	109056
EUGLENOPHYTA (euglenoid algae)	
Euglena sp.	1136
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Cyclotella meneghiniana	148
Cyclotella sp.	58
Rhizosolenia erensis	49
Stephanodiscus sp.	346
Order Pennales	
Nitzschia *acicularis*	198
Nitzschia palea	593
Nitzschia paleacea (holsatica)	346
Nitzschia subacicularis	148
Synedra radians ?	1383
Synedra rumpens	1383
Synedra sp.	148

GRAPEVINE LAKE NEAR GRAPEVINE, TX--Continued

Grapevine Lake EC (330207097103701)

Phytoplankton Analyses October 1985 to September 1986

Date	3-26-86
Time	1232
TOTAL CELLS/mL	108,004
NUMBER OF SPECIES	16
DEPTH COLLECTED (ft.)	0.4

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Chlorococcum sp.	341
Chodatella subsalsa	227
Kircherinella contorta	682
Mesotaenium sp.	1136
Scenedesmus serratus	227
CYANOPHYTA (blue-green algae)	
Aphanocapsa delicatissima	9542
Aphanocapsa elachista	2499
Chroococcus limneticus	454
Dactylococcopsis fascicularis	1022
Synechococcus elongatus	72022
Oscillatoria sp.	2272
CRYPTOPHYTA (cryptomonads)	
Chilomonas sp.	57
Chroomonas sp.	682
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Stephanodiscus hantzschii	114
Stephanodiscus tenuis	16699
Order Pennales	
Nitzschia acicularis	28

GRAPEVINE LAKE NEAR GRAPEVINE, TX--Continued

Grapevine Lake EC (330207097103701)

Phytoplankton Analyses October 1985 to September 1986

Date	8-13-86
Time	1044
TOTAL CELLS/mL	492,117
NUMBER OF SPECIES	43
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Ankistrodesmus convolutus	284
Ankistrodesmus nannoselene	1136
Chodatella sp.	568
Coelastrum sphaericum	4544
Coelastrum sp.	57
Gloeocystis sp.	28
Golenkinia radiata	1136
Scenedesmus sp.	2272
Schroederia setigera	284
CYANOPHYTA (blue-green algae)	
Anabaenopsis raciborskii ?	27264
Aphanizomenon flos-aquae	2840
Aphanocapsa delicatissima	78384
Aphanocapsa elachista	32376
Aphanocapsa elachista var. conferta	22720
Aphanothece saxicola	17040
Chroococcus dispersus	3976
Chroococcus limneticus	5680
Chroococcus multicoloratus	2272
Chroococcus varius	1136
Dactylococcopsis acicularis	1704
Dactylococcopsis fascicularis	6248
Lyngbya limnetica	46576
Merismopedia punctata	12496
Microcystis sp.	101672
Oscillatoria angustissima	24992
Oscillatoria limnetica	9088
Oscillatoria planctonica	1704
Spirulina sp.	4544
Synechococcus lineare	114
Synechococcus sp.	74408
EUGLENOPHYTA (euglenoid algae)	
Euglena sp.	284
Trachelomonas hispida	568
CRYPTOPHYTA (cryptomonads)	
Cryptomonas sp.	568
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Cyclotella meneghiniana	568
Cyclotella sp.	28
Melosira lirata	1136
Stephanodiscus sp.	114
Order Pennales	
Diploneis sp.	57
Nitzschia acicularis	227
Nitzschia palea	58
Nitzschia paleacea (holsatica)	114
Synedra radians ?	568
Synedra sp.	284

08055000 DENTON CREEK NEAR GRAPEVINE, TX

LOCATION.--Lat 32°59'13", long 97°00'45", Denton County, Hydrologic Unit 12030104, on left bank at downstream side of left pier of bridge on State Highway 121, 1.3 mi downstream from Bakers Branch, 4.1 mi downstream from Grapevine Dam, 5.0 mi northeast of Grapevine, and 6.1 mi upstream from mouth.

DRAINAGE AREA.--705 mi².

PERIOD OF RECORD.--October 1947 to current year.
Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 439.11 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Since July 1952, flow regulated by Grapevine Lake (see preceding page). Much of flow is used by the city of Dallas for municipal supply (see station 08055500). The city of Grapevine diverts water from Denton Creek just downstream from Grapevine Dam. There were several observations of water temperature made during the year.

AVERAGE DISCHARGE.--5 years (water years 1948-52) prior to regulation, 140 ft³/s (101,400 acre-ft/yr); 34 years (water years 1953-86) regulated, unadjusted, 157 ft³/s (113,700 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,900 ft³/s Feb. 26, 1948 (gage height, 30.38 ft), from rating curve extended above 6,000 ft³/s on basis of conveyance-slope study; no flow at times. Maximum discharge since construction of Grapevine Dam in 1952, 9,700 ft³/s Nov. 1, 1981 (gage height, 27.93 ft).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1908 was slightly higher than the flood in April 1942, which reached a stage of 35.9 ft, from floodmarks, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,950 ft³/s June 15 at 0930 hours (gage height, 17.62 ft); no flow part or all of Mar. 24-29 and Apr. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	52	66	66	54	4.5	60	135	926	1420	70	116
2	68	52	45	67	53	4.4	59	130	139	1410	103	161
3	68	51	14	67	85	3.0	88	127	82	1230	169	96
4	68	52	16	66	59	5.9	108	129	125	672	111	96
5	68	53	14	66	87	6.7	178	130	315	365	90	95
6	69	54	14	66	71	5.6	67	129	335	787	66	94
7	69	53	14	66	10	.57	88	130	558	783	67	73
8	68	55	16	65	5.7	2.0	141	136	977	513	70	35
9	69	58	17	65	7.6	3.3	143	143	853	138	77	37
10	69	59	20	65	5.2	2.0	147	150	1000	103	77	39
11	73	58	22	64	2.9	3.1	151	133	1500	93	78	38
12	72	59	20	62	5.3	4.0	224	169	1650	90	78	36
13	71	60	19	62	3.6	38	139	451	1690	86	74	36
14	74	61	17	64	4.1	107	140	768	1820	67	69	36
15	76	80	16	63	3.6	103	138	914	1840	46	70	33
16	75	67	17	60	4.9	103	139	913	1550	46	72	70
17	76	65	17	61	2.6	103	143	821	1490	46	76	117
18	82	69	15	60	3.8	107	145	47	1490	46	79	118
19	118	70	15	60	3.4	104	237	19	1500	45	85	118
20	74	73	14	56	3.1	102	150	166	1490	45	83	120
21	73	73	14	57	2.2	104	105	645	1480	45	88	121
22	72	72	14	58	5.4	103	129	904	1470	49	91	138
23	73	73	37	55	3.5	103	127	904	1500	51	84	157
24	73	41	69	58	3.8	103	127	887	1480	49	84	158
25	74	.00	69	53	4.4	105	128	150	1460	49	86	160
26	76	6.8	69	53	4.3	69	128	123	1450	50	85	139
27	75	.02	68	53	3.5	26	130	375	1440	49	86	96
28	68	.00	69	52	3.2	73	129	923	1440	49	88	97
29	61	20	68	52	---	59	129	923	1430	48	88	100
30	53	63	66	50	---	60	138	927	1420	48	86	100
31	52	---	66	52	---	59	---	962	---	48	86	---
TOTAL	2227	1549.82	1017	1864	505.1	1676.07	3955	13463	35900	8566	2616	2830
MEAN	71.8	51.7	32.8	60.1	18.0	54.1	132	434	1197	276	84.4	94.3
MAX	118	80	69	67	87	107	237	962	1840	1420	169	161
MIN	52	.00	14	50	2.2	.57	59	19	82	45	66	33
AC-FT	4420	3070	2020	3700	1000	3320	7840	26700	71210	16990	5190	5610

CAL YR 1985 TOTAL 49734.92 MEAN 136 MAX 1570 MIN .00 AC-FT 98650
WTR YR 1986 TOTAL 76168.99 MEAN 209 MAX 1840 MIN .00 AC-FT 151100

08055500 ELM FORK TRINITY RIVER NEAR CARROLLTON, TX

LOCATION.--Lat 32°57'57", long 96°56'39", Dallas County, Hydrologic Unit 12030103, near left bank at downstream side of bridge on Sandy Lake Road, 40 ft upstream from Carrollton Dam, 0.3 mi downstream from Denton Creek, 1.0 mi upstream from St. Louis Southwestern Railway Lines bridge, 2.3 mi northwest of Carrollton, and 18.2 mi upstream from mouth.

DRAINAGE AREA.--2,459 mi^2.

PERIOD OF RECORD.--January 1907 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to November 1923, published as "near Dallas".

REVISED RECORDS.--WSP 788: 1924. WSP 1148: Drainage area at former site. WSP 1632: 1908(M). WSP 1922: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 433.40 ft National Geodetic Vertical Datum of 1929. Prior to November 1923, nonrecording gage at site 15.5 mi downstream at different datum. Nov. 1, 1923, to Nov. 13, 1934, nonrecording gage, and Nov. 14, 1934, to July 6, 1938, water-stage recorder at present site and datum. July 7, 1938, to Apr. 14, 1939, nonrecording gage at site 9.3 mi downstream at datum 22.94 ft lower. Apr. 15, 1939, to Sept. 30, 1955, water-stage recorder at site 8.5 mi downstream at datum 22.94 ft lower.

REMARKS.--No estimated daily discharges. Flow is largely regulated by Lewisville Lake (station 08052800) since November 1954 and by Grapevine Lake (station 08054500) since July 1952. The city of Dallas diverts water from pool at gage and from river 14 mi downstream for municipal use. A water treatment plant returns water to river below this station. In addition, the Dallas Power and Light Co. diverts water from pool at gage into North Lake for cooling water at their electric generating plant. Several observations of water temperature were made during the year. Gage-height telemeters at station.

AVERAGE DISCHARGE.--47 years (water years 1908-54) prior to regulation by Lewisville and Grapevine Lakes, 818 ft^3/s (592,600 acre-ft/yr); 32 years (water years 1955-86) regulated, unadjusted, 737 ft^3/s (534,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, about 17 ft May 25, 1908, present site and datum, from information by local resident; estimated discharge, 145,000 ft^3/s, at site 8.5 mi downstream (from information by U.S. Army Corps of Engineers); maximum gage height subsequent to 1908, 14.5 ft Apr. 26, 1942, present site and datum, from observation by National Weather Service; discharge at site 8.5 mi downstream, 90,700 ft^3/s; no flow at times.
Flood in 1866 reached about the same stage as flood of May 25, 1908.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,750 ft^3/s June 15 at 1500 hours (gage height, 5.97 ft); no flow Jan. 11-12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	175	160	132	35	778	108	1020	4750	5030	212	394
2	67	152	159	145	32	741	115	928	1700	5040	231	749
3	83	148	129	138	302	596	241	1130	754	4960	424	264
4	123	142	130	90	55	241	648	1120	340	4070	341	212
5	79	133	116	61	219	224	842	1120	706	919	174	283
6	85	136	107	14	654	224	166	1110	610	1740	176	256
7	122	152	116	12	1200	236	119	1120	997	1680	161	154
8	122	158	110	23	2060	241	196	1140	2370	1690	133	321
9	85	145	99	43	2140	261	407	1250	2590	1880	223	1140
10	147	138	111	4.6	2240	273	865	1960	2330	2550	195	2500
11	149	133	102	.00	3030	281	824	1220	4260	2990	238	3230
12	90	133	93	.00	3390	200	1810	1230	5190	3120	150	3250
13	123	133	86	20	3820	155	915	2030	5360	3110	192	1780
14	116	131	94	69	3950	235	1150	3080	5300	3120	144	867
15	96	439	85	34	3990	157	1780	3440	6080	2950	131	826
16	78	109	88	12	4000	159	1790	3470	5560	2050	171	401
17	109	96	108	20	3980	127	1800	4700	5020	634	154	419
18	280	113	115	31	3980	240	1580	871	5160	195	156	262
19	611	102	107	10	3990	134	1200	92	5600	230	212	259
20	145	74	90	6.6	3990	145	735	372	5700	223	175	267
21	129	61	120	3.9	3980	122	222	1830	5670	224	171	269
22	73	81	128	13	4000	113	491	3250	5510	248	193	176
23	84	117	112	35	3960	89	1290	3400	5340	238	147	165
24	100	113	109	31	3920	138	1300	3680	5350	230	197	173
25	109	51	116	21	3830	190	1130	1130	5240	230	182	117
26	94	179	133	12	3540	147	814	272	5240	227	172	150
27	82	273	122	16	1570	122	825	643	5160	229	211	153
28	132	131	120	18	1100	159	815	2620	5130	229	197	73
29	355	127	112	12	---	129	799	3420	5120	226	155	135
30	205	163	89	4.3	---	159	818	3510	5060	220	176	135
31	179	---	96	14	---	125	---	3820	---	218	188	---
TOTAL	4344	4238	3462	1045.40	72957	7141	25795	59978	123197	50700	5982	19380
MEAN	140	141	112	33.7	2606	230	860	1935	4107	1635	193	646
MAX	611	439	160	145	4000	778	1810	4700	6080	5040	424	3250
MIN	67	51	85	.00	32	89	108	92	340	195	131	73
AC-FT	8620	8410	6870	2070	144700	14160	51160	119000	244400	100600	11870	38440

CAL YR 1985 TOTAL 259742.6 MEAN 712 MAX 4270 MIN 1.4 AC-FT 515200
WTR YR 1986 TOTAL 378219.40 MEAN 1036 MAX 6080 MIN .00 AC-FT 750200

08056500 TURTLE CREEK AT DALLAS, TX

LOCATION.--Lat 32°48'26", long 96°48'08", Dallas County, Hydrologic Unit 12030105, on left bank 68 ft upstream from Hall Street Dam, 210 ft upstream from Hall Street in Dallas, and 2.0 mi north of Dallas County Courthouse.

DRAINAGE AREA.--7.98 mi².

PERIOD OF RECORD.--Water years 1948-51 (annual maximum only), October 1951 to September 1980, April 1984 to current year. Daily discharge records for April 1948 to September 1951, published in WSP 1392, are unreliable and should no be used.

REVISED RECORDS.--See PERIOD OF RECORD.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 428.13 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 17, 1951, at site 52 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow is slightly affected by eight small on-channel dams above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years (water years 1952-80, 1986) 8.53 ft³/s (6,180 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft³/s Apr. 28, 1966 (gage height 10.54 ft), from rating curve curve extended above 2,460 ft³/s on basis of contracted-opening measurement of 12,200 ft³/s; no flow at times during most years.

Maximum stage since at lease 1903, that of Apr. 28, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft³/s (revised) and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 26	2200	1,740	5.08	Apr. 19	1500	3,130	6.67
Apr. 4	2300	*3,780	*7.31	May 17	0600	2,780	6.30
Apr. 12	0145	2,790	6.31	May 31	2030	1,990	5.40

Minimum daily discharge, 0.90 ft³/s Sept. 27-28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	10	17	3.1	3.2	2.7	2.4	14	203	2.5	2.3	20
2	2.2	6.1	11	3.0	3.1	2.9	2.4	4.9	26	12	2.5	78
3	2.0	4.3	9.8	2.8	75	2.9	4.5	3.9	14	40	16	4.3
4	1.8	3.7	8.9	3.6	11	2.9	200	3.7	8.2	5.7	6.8	3.0
5	1.2	3.5	7.7	2.4	88	3.2	39	3.7	43	2.7	3.5	46
6	1.1	4.0	6.7	2.5	21	2.8	6.0	3.5	9.2	2.4	3.0	8.8
7	1.2	2.7	5.9	2.9	13	2.9	5.3	3.5	58	2.8	5.4	12
8	1.4	3.0	5.2	2.4	7.8	2.9	4.4	32	7.9	2.7	6.0	3.5
9	1.3	3.8	5.0	2.2	14	3.3	5.2	85	6.5	2.5	3.0	2.7
10	14	3.8	92	2.0	6.5	4.2	4.8	31	5.6	2.1	31	2.5
11	5.5	33	21	2.3	5.3	10	4.6	6.5	36	2.4	61	2.3
12	2.3	5.4	9.5	2.8	4.9	5.1	161	5.7	5.2	2.3	9.1	1.9
13	1.8	5.0	5.8	2.5	4.9	3.2	6.1	5.0	4.7	2.0	3.4	1.5
14	3.1	8.3	4.8	2.2	4.8	3.0	5.9	4.8	4.3	2.2	2.8	1.8
15	8.4	76	4.6	2.3	4.6	5.2	4.3	4.6	8.4	2.0	2.9	2.3
16	2.2	8.8	4.5	2.3	4.6	2.7	4.2	3.9	24	1.8	3.0	2.0
17	3.8	44	4.2	2.5	4.2	3.2	28	305	22	1.7	2.5	1.9
18	72	93	4.4	2.5	4.3	20	6.1	15	5.1	1.9	5.8	2.2
19	135	21	4.4	2.3	3.8	3.4	223	9.1	6.4	1.7	2.4	2.2
20	8.4	14	4.5	2.8	4.8	2.9	11	7.0	4.6	2.3	2.1	2.0
21	6.5	15	3.7	3.1	3.4	2.3	6.8	6.1	4.3	42	1.8	1.7
22	5.8	15	4.1	2.6	3.1	2.8	5.5	5.4	4.1	8.2	1.9	1.6
23	4.9	15	4.0	2.6	3.3	2.9	4.8	4.6	4.1	4.0	2.0	1.4
24	4.4	14	3.2	2.2	3.3	2.8	4.4	6.3	3.7	3.0	7.1	1.3
25	3.8	21	3.5	1.9	3.2	2.7	3.8	6.8	3.8	2.9	5.5	1.2
26	3.6	125	3.2	2.4	4.2	2.7	3.6	5.4	4.1	2.8	2.3	1.3
27	3.4	80	3.4	2.3	3.9	2.7	19	5.9	3.6	3.5	2.0	1.0
28	8.6	21	2.6	2.5	2.9	2.6	4.1	4.9	3.3	2.9	1.6	20
29	92	16	2.9	2.3	---	2.9	4.2	4.6	3.3	1.8	2.2	3.6
30	20	26	3.4	2.1	---	3.5	54	4.1	3.1	1.7	1.9	2.0
31	6.3	---	3.3	3.3	---	2.6	---	188	---	2.2	1.6	---
TOTAL	430.4	701.4	274.2	78.7	316.1	119.9	838.4	793.9	539.5	170.7	204.4	236.0
MEAN	13.9	23.4	8.85	2.54	11.3	3.87	27.9	25.6	18.0	5.51	6.59	7.87
MAX	135	125	92	3.6	88	20	223	305	203	42	61	78
MIN	1.1	2.7	2.6	1.9	2.9	2.3	2.4	3.5	3.1	1.7	1.6	1.0
AC-FT	854	1390	544	156	627	238	1660	1570	1070	339	405	468

CAL YR 1985 TOTAL 4449.55 MEAN 12.2 MAX 213 MIN .79 AC-FT 8830
WTR YR 1986 TOTAL 4703.6 MEAN 12.9 MAX 305 MIN 1.0 AC-FT 9330

08057000 TRINITY RIVER AT DALLAS, TX

LOCATION.--Lat 32°46'29", long 96°49'18", Dallas County, Hydrologic Unit 12030105, on right bank (levee) 90 ft downstream from Commerce Street viaduct in Dallas, 5.2 mi downstream from confluence of West and Elm Forks, and at mile 500.3.

DRAINAGE AREA.--6,106 mi².

PERIOD OF RECORD.--October 1898 to December 1899 (gage heights only published in WSP 28 and 37), July 1903 to current year.

REVISED RECORDS.--WSP 850: 1903-6 (monthly and annual means). WSP 1732: 1937(M). WSP 1922: Drainage area. WDR TX-73-1: 1972.

GAGE.--Water-stage recorder. Datum of gage is 368.02 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1898, to Dec. 31, 1899, nonrecording gage at site 2 mi upstream at different datum. July 1, 1903, to July 20, 1930, nonrecording gage at present site and datum. July 21, 1930, to Sept. 30, 1932, nonrecording gage at site 6 mi downstream at datum 3.08 ft lower.

REMARKS.--Estimated daily discharges: Dec. 17 to Jan. 29, and May 22-23. Records fair. At times flow is affected by storage in seven upstream reservoirs, combined capacity 1,703,000 acre-ft, of which 846,200 acre-ft is for flood control. The city of Dallas diverts water for municipal use from Elm Fork, Lake Ray Hubbard (on the East Fork), and Lake Tawakoni (on the Sabine River), and purchases water from North Texas Municipal Water District (from the East Fork). Sewage effluent is returned to the river downstream from this station. The Trinity River Authority discharges sewage effluent into the river upstream from the station. For additional information on diversions and effluent returns upstream from this station, see stations 08048000, 08049200, and 08049500. Gage-height telemeters at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--83 years, 1,527 ft³/s (1,106,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 184,000 ft³/s May 25, 1908 (gage height, 52.6 ft), from rating curve extended above 109,000 ft³/s; minimum observed for periods 1903-6, 1920-75, 1.2 ft³/s July 4, 1953, result of storage behind temporary dam 4 mi upstream. Maximum stage since at least 1840, that of May 25, 1908.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1866 reached about the same stage as that of May 25, 1908.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,600 ft³/s June 2 at 1015 hours (gage height, 36.40 ft); minimum daily, 239 ft³/s Aug. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	625	512	995	330	339	1220	398	2810	11600	5600	295	744
2	448	490	644	330	354	1070	401	2220	18500	5530	282	5210
3	398	460	488	335	1420	1030	403	1590	15800	5450	382	4330
4	379	396	442	330	3510	746	1920	1560	12400	5570	2700	1410
5	357	373	417	325	1920	526	3860	1500	9790	4210	916	985
6	350	360	414	320	4960	451	2040	1500	8030	1820	383	1970
7	349	357	388	315	2840	468	627	1460	6510	2140	337	1480
8	354	353	392	314	2450	501	486	1560	5790	2080	309	884
9	350	355	380	314	2690	509	472	2760	7730	2010	289	1080
10	384	350	819	316	2810	545	863	6480	8670	2290	959	2020
11	418	431	1610	316	2740	580	1110	5630	7650	2800	1450	3000
12	413	359	993	305	2620	598	3530	2830	8370	3110	833	3380
13	389	357	538	318	3280	534	2480	2300	7860	3210	413	3310
14	386	370	657	325	3680	621	1390	2900	7660	3210	352	1830
15	416	2880	601	328	3810	673	1770	3510	7430	3240	309	1180
16	377	2570	417	327	3830	520	2100	3840	7960	3020	288	909
17	365	772	415	327	3840	470	2350	6960	9100	1830	276	666
18	1470	959	405	327	3820	839	2270	10700	8720	585	282	606
19	5060	775	395	325	3800	988	3720	5870	8170	374	279	502
20	4980	472	380	330	3790	558	8700	2230	7990	345	273	471
21	1260	365	360	329	3760	494	4730	1920	7880	407	276	484
22	592	402	355	329	3740	449	1430	2400	7740	871	271	492
23	474	394	360	330	3720	418	1550	3550	7570	589	266	417
24	447	422	350	332	3720	402	1770	3940	7480	399	324	410
25	429	401	345	326	3640	416	1740	6780	7510	343	335	396
26	388	577	345	326	3520	415	1350	5380	7170	315	294	396
27	370	2690	340	330	3030	415	1330	1640	6760	303	267	412
28	372	1260	335	328	1720	400	1510	2320	6290	309	265	484
29	1670	549	330	326	---	395	1240	3400	5980	324	253	479
30	1480	676	325	329	---	397	1270	3840	5750	312	244	490
31	663	---	325	335	---	400	---	4710	---	304	239	---
TOTAL	26413	21687	15560	10077	85353	18048	58810	110090	255860	62900	14641	40427
MEAN	852	723	502	325	3048	582	1960	3551	8529	2029	472	1348
MAX	5060	2880	1610	335	4960	1220	8700	10700	18500	5600	2700	5210
MIN	349	350	325	305	339	395	398	1460	5750	303	239	396
AC-FT	52390	43020	30860	19990	169300	35800	116600	218400	507500	124800	29040	80190

CAL YR 1985 TOTAL 560048 MEAN 1534 MAX 11600 MIN 325 AC-FT 1111000
WTR YR 1986 TOTAL 719866 MEAN 1972 MAX 18500 MIN 239 AC-FT 1428000

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX

LOCATION.--Lat 32°45'04", long 96°47'07", Dallas County, Hydrologic Unit 12030105, on right bank at abandoned bridge abutment, 0.2 mi upstream from Cedar Crest Blvd. bridge, 1.8 mi southeast of Dallas City Hall, 2.1 mi downstream from Coombs Creek, and 2.7 mi downstream from Commerce Street Bridge (station 08057000).

PERIOD OF RECORD.--Chemical and biochemical analyses: February 1984 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1984 to current year.
pH: February 1984 to current year.
WATER TEMPERATURES: February 1984 to current year.
DISSOLVED OXYGEN: February 1984 to current year.

INSTRUMENTATION.--Beginning February 1984, a four-parameter water-quality monitor records temperature, DO, pH, and specific conductance continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum or minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 996 micorsiemens Aug. 30, 1986; minimum, 93 microsiemens Oct. 20, 1984.
pH: Maximum, 8.6 units Oct. 20, 1984; minimum, 7.0 units on several days during 1984 and 1985.
WATER TEMPERATURES: Maximum, 32.5°C on several days during summer months of 1985 and 1986; minimum, 8.0°C Feb. 2, 5, 1985 and Feb. 11, 1986.
DISSOLVED OXYGEN: Maximum, 12.5 mg/L Feb. 12, 13, 1986; minimum, 0.0 mg/L July 21, 1985.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 996 microsiemens Aug. 30 minimum, 116 microsiemens Aug. 10.
WATER TEMPERATURES: Maximum, 32.5°C on several days during July and August; minimum, 8.0°C Feb. 11.
DISSOLVED OXYGEN: Maximum, 12.5 mg/L Feb. 12, 13; minimum, 0.2 mg/L Apr. 4, July 22.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 14...	1330	374	814	7.30	23.0	5.7	67	3.9	160	19
JAN 30...	1500	320	864	7.30	15.5	7.8	78	13	180	10
APR 17...	0945	2570	463	7.40	18.0	8.0	85	3.5	150	36
JUN 18...	1030	8690	390	7.70	25.5	6.8	83	1.6	140	21
JUL 24...	0930	412	646	7.70	30.0	5.1	--	3.8	160	15
SEP 10...	1445	1670	407	7.90	26.5	7.2	91	1.8	130	21

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 14...	52	7.0	94	3	10	140	98	84	1.1
JAN 30...	59	7.2	100	3	12	167	100	88	1.2
APR 17...	54	4.3	34	1	5.4	117	57	36	0.4
JUN 18...	47	5.1	22	0.9	5.3	117	42	22	0.3
JUL 24...	54	6.1	64	2	8.0	145	75	54	0.7
SEP 10...	44	4.2	30	1	5.9	106	47	27	0.4

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
NOV 14...	9.0	440	8.38	0.42	8.80	0.40	1.7	2.1	3.40
JAN 30...	8.0	480	6.00	1.10	7.10	2.10	1.9	4.0	3.60
APR 17...	5.0	270	1.69	0.11	1.80	0.46	0.94	1.4	0.48
JUN 18...	5.3	220	0.57	0.03	0.60	0.13	0.67	0.8	0.17
JUL 24...	8.7	360	3.24	0.16	3.40	0.44	1.2	1.6	2.70
SEP 10...	6.2	230	1.53	0.07	1.60	0.15	1.0	1.2	0.54

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1985	26413	533	304	21600	44	3140	67	4770	150
NOV.	1985	21687	613	347	20300	53	3080	76	4470	160
DEC.	1985	15560	734	411	17300	69	2880	90	3780	180
JAN.	1986	10077	846	469	12800	85	2310	100	2780	180
FEB.	1986	85353	493	282	64900	30	8970	62	14300	140
MAR.	1986	18048	648	366	17800	57	2780	80	3920	170
APR.	1986	58810	462	266	42200	34	5440	59	9340	140
MAY	1986	110090	402	233	69300	28	8230	52	15400	130
JUNE	1986	255860	385	224	154000	26	17900	50	34300	130
JULY	1986	62900	417	241	41000	30	5030	54	9100	130
AUG.	1986	14641	628	355	14000	55	2190	78	3080	160
SEPT	1986	40427	449	258	28200	34	3680	57	6240	140
TOTAL		719866	**	**	504000	**	65600	**	112000	**
WTD.AVG.		1972	451	259	**	34	**	57	**	140

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	552	452	518	694	643	668	628	559	591	844	829	835
2	688	554	638	736	667	709	685	621	660	839	816	826
3	796	693	760	762	716	738	701	638	678	852	828	838
4	834	786	808	765	717	745	730	692	717	856	831	847
5	846	808	826	799	752	778	763	720	745	878	820	845
6	850	808	826	799	783	791	790	753	772	865	847	857
7	838	808	822	846	797	826	820	790	807	880	841	862
8	815	788	802	858	826	843	822	804	813	863	835	844
9	788	769	780	848	803	829	842	804	822	844	831	837
10	791	615	750	847	799	824	834	338	640	861	836	846
11	771	664	716	822	608	681	660	512	560	861	853	859
12	776	736	754	809	745	785	655	597	625	861	854	858
13	800	765	784	806	796	803	703	653	690	851	833	839
14	760	573	711	824	679	801	766	643	729	844	830	836
15	789	710	750	731	317	509	784	643	718	825	790	799
16	772	754	761	459	378	420	809	775	790	837	794	812
17	794	761	778	535	464	509	830	795	814	862	839	852
18	775	258	594	662	401	571	829	655	780	864	858	861
19	402	289	334	663	500	603	837	679	788	861	852	856
20	379	331	351	774	665	710	858	819	841	856	844	850
21	569	382	481	854	739	781	876	857	864	854	840	847
22	650	577	626	836	787	812	928	870	906	855	830	844
23	740	653	714	850	788	818	888	878	890	826	822	825
24	781	507	729	802	782	792	882	859	869	832	821	825
25	789	767	780	---	---	796	859	822	844	842	832	836
26	827	784	812	---	---	700	830	815	825	854	837	844
27	850	803	828	518	444	479	858	830	842	865	850	855
28	830	779	814	578	520	544	844	826	834	880	865	871
29	614	347	455	643	582	623	885	800	844	881	866	876
30	543	468	495	702	606	678	868	847	856	877	858	867
31	638	547	595	---	---	---	873	849	864	---	859	867
MONTH	850	258	690	858	317	706	928	338	775	881	790	846

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	888	495	458	480	857	836	849	524	376	461
2	---	---	882	493	466	480	849	829	838	448	372	414
3	---	224	525	494	465	478	889	829	860	463	449	457
4	781	611	665	560	475	519	898	361	620	475	453	464
5	874	794	846	626	564	595	487	367	446	471	457	465
6	833	821	826	713	631	681	536	430	475	468	462	465
7	834	799	818	698	680	689	657	540	613	474	464	469
8	799	764	785	678	581	629	755	661	719	473	406	461
9	763	683	734	658	574	613	759	722	737	546	374	469
10	688	534	623	596	521	563	762	566	644	408	292	354
11	525	442	472	571	445	538	563	530	548	392	337	357
12	441	397	423	550	492	523	531	248	390	448	395	422
13	401	388	395	796	532	677	463	398	437	449	415	430
14	407	388	393	796	687	763	503	465	491	420	397	407
15	393	386	389	735	677	711	489	426	451	401	392	398
16	392	386	389	717	677	696	433	425	429	401	392	397
17	395	384	391	738	690	717	478	422	441	405	313	362
18	395	384	390	751	521	663	433	419	425	401	329	357
19	390	386	388	613	531	582	484	208	388	451	359	398
20	394	386	391	842	574	663	457	308	367	541	456	496
21	392	384	389	---	---	738	466	331	392	548	458	497
22	390	384	387	---	---	764	593	473	541	455	409	425
23	382	381	386	---	---	790	615	472	522	408	403	406
24	389	380	386	---	---	803	481	469	474	408	401	405
25	387	382	385	---	---	805	477	466	472	503	284	358
26	388	382	385	---	---	819	526	476	503	437	314	375
27	463	385	421	---	---	815	556	472	522	558	447	511
28	475	455	465	---	---	830	564	494	529	567	428	486
29	---	---	---	---	---	838	536	492	507	427	404	413
30	---	---	---	---	---	842	526	222	408	409	400	405
31	---	---	---	---	---	840	---	---	---	422	157	374
MONTH	874	224	529	842	445	682	898	208	537	567	157	424

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	371	216	325	385	379	383	990	793	860	810	393	687
2	373	311	336	385	378	382	963	808	897	442	233	298
3	377	312	349	390	335	373	892	719	813	388	318	338
4	381	341	363	390	325	377	601	350	431	515	439	474
5	431	381	412	468	390	415	514	400	463	606	466	498
6	434	414	422	497	450	474	653	523	609	555	392	453
7	447	418	436	448	429	440	714	656	696	473	209	383
8	461	437	451	441	428	433	764	711	747	571	476	530
9	438	345	391	438	412	427	782	761	770	534	446	518
10	418	359	399	417	392	406	772	116	609	455	379	417
11	426	405	417	391	379	386	529	252	437	377	361	367
12	403	391	397	381	371	377	532	417	469	365	342	361
13	406	398	402	382	372	378	685	541	640	403	366	390
14	407	402	404	375	369	373	759	602	720	446	400	431
15	403	398	400	371	366	369	817	753	771	476	447	462
16	403	376	388	388	366	377	828	777	793	546	456	491
17	396	372	381	466	387	421	833	773	801	574	550	561
18	394	371	387	646	471	552	805	771	785	637	561	599
19	403	381	390	709	645	684	842	759	785	690	641	671
20	395	383	390	708	689	697	883	768	814	720	683	700
21	392	388	391	706	569	679	868	766	806	724	677	700
22	390	386	388	693	397	512	832	789	808	735	679	699
23	388	384	386	646	540	598	831	802	819	779	701	749
24	387	384	386	687	595	630	809	469	731	786	747	760
25	391	377	384	---	---	740	764	617	673	845	757	798
26	387	382	384	---	---	762	903	748	825	876	815	844
27	389	383	386	---	---	770	855	772	782	867	800	829
28	389	382	386	---	---	766	788	751	771	851	440	722
29	388	382	386	---	---	762	847	770	796	765	658	712
30	387	381	384	933	729	805	996	799	881	788	705	754
31	---	---	---	933	767	835	928	818	855	---	---	---
MONTH	461	216	390	933	325	535	996	116	731	876	209	573

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.90	7.70	7.80	7.80	7.70	7.70	7.70	7.40	7.50	7.70	7.70	7.70
2	7.90	7.70	7.90	7.70	7.70	7.70	7.50	7.40	7.40	7.70	7.70	7.70
3	7.90	7.80	7.80	7.70	7.70	7.70	7.50	7.40	7.40	7.70	7.70	7.70
4	7.90	7.80	7.90	7.70	7.70	7.70	7.60	7.40	7.50	7.70	7.70	7.70
5	---	---	---	7.70	7.60	7.70	7.50	7.40	7.40	7.70	7.70	7.70
6	---	---	---	7.70	7.60	7.60	7.50	7.40	7.40	7.70	7.70	7.70
7	---	---	---	7.60	7.60	7.60	7.70	7.40	7.60	7.80	7.70	7.70
8	---	---	---	7.60	7.50	7.60	7.90	7.60	7.70	7.80	7.70	7.80
9	---	---	---	7.60	7.50	7.50	7.90	7.60	7.70	7.70	7.40	7.50
10	---	---	---	7.50	7.40	7.50	7.90	7.70	7.80	7.40	7.40	7.40
11	---	---	---	7.50	7.40	7.40	7.80	7.50	7.70	7.40	7.40	7.40
12	---	---	---	7.40	7.30	7.40	7.50	7.50	7.50	7.40	7.40	7.40
13	---	---	---	7.30	7.30	7.30	7.50	7.50	7.50	7.40	7.40	7.40
14	---	---	---	7.30	7.10	7.30	7.50	7.50	7.50	7.50	7.40	7.40
15	8.10	7.80	8.00	7.60	---	7.30	7.60	7.50	7.50	7.40	7.40	7.40
16	7.80	7.70	7.80	7.50	7.30	7.40	7.60	7.50	7.50	7.50	7.40	7.40
17	7.70	7.60	7.70	7.50	7.40	7.40	7.50	7.50	7.50	7.40	7.40	7.40
18	7.70	7.60	7.70	7.60	7.40	7.50	7.60	7.50	7.60	7.40	7.40	7.40
19	7.90	7.50	7.70	7.60	7.40	7.40	7.70	7.50	7.70	7.50	7.40	7.40
20	---	---	---	7.50	7.40	7.50	7.70	7.60	7.70	7.50	7.40	7.40
21	---	---	---	7.50	7.40	7.50	7.70	7.60	7.70	7.50	7.40	7.40
22	---	---	---	7.50	7.50	7.50	7.60	7.60	7.60	7.50	7.40	7.40
23	---	---	---	7.50	7.40	7.50	7.70	7.60	7.60	7.50	7.40	7.40
24	---	---	---	7.50	7.40	7.50	7.70	7.60	7.60	7.50	7.40	7.50
25	---	---	---	---	---	---	7.90	7.70	7.70	7.60	7.40	7.50
26	---	---	---	---	---	---	7.70	7.70	7.70	7.60	7.50	7.50
27	---	---	---	7.70	7.50	7.60	7.70	7.60	7.70	7.60	7.50	7.50
28	---	---	---	7.70	7.60	7.60	7.70	7.60	7.70	7.60	7.50	7.50
29	---	---	---	7.70	7.60	7.70	7.70	7.60	7.70	7.60	7.50	7.50
30	---	---	---	7.80	7.70	7.70	7.70	7.70	7.70	7.50	7.10	7.40
31	---	---	---	---	---	---	7.70	7.70	7.70	7.50	7.10	7.30
MONTH	8.10	7.50	7.81	7.80	7.10	7.53	7.90	7.40	7.60	7.80	7.10	7.50

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.30	7.10	7.20	8.00	7.90	8.00	7.70	7.40	7.60	7.70	7.40	7.60
2	7.40	7.30	7.40	8.00	8.00	8.00	7.60	7.50	7.50	7.70	7.50	7.70
3	7.70	7.40	7.50	8.10	8.00	8.00	7.70	7.50	7.60	7.80	7.70	7.70
4	---	---	---	8.00	8.00	8.00	7.70	7.50	7.60	7.90	7.80	7.80
5	---	---	---	8.00	7.90	7.90	7.60	7.40	7.50	7.90	7.90	7.90
6	---	---	---	7.90	7.70	7.80	7.60	7.30	7.50	7.90	7.90	7.90
7	---	---	---	7.70	7.70	7.70	7.60	7.50	7.60	7.90	7.90	7.90
8	---	---	---	7.70	7.60	7.60	7.70	7.60	7.60	8.00	7.80	7.90
9	---	---	---	7.60	7.50	7.60	7.70	7.60	7.70	7.90	7.60	7.80
10	---	---	---	7.60	7.50	7.60	7.70	7.70	7.70	7.80	7.50	7.70
11	---	---	---	7.70	7.60	7.60	7.80	7.70	7.70	7.80	7.60	7.70
12	7.90	7.80	7.90	7.70	7.70	7.70	7.90	7.60	7.80	7.80	7.70	7.80
13	7.90	7.90	7.90	7.70	7.70	7.70	7.80	7.70	7.70	7.90	7.80	7.90
14	7.90	7.90	7.90	7.80	7.50	7.70	7.90	7.80	7.80	8.00	7.90	7.90
15	7.90	7.90	7.90	7.70	7.40	7.50	7.90	7.80	7.90	8.00	7.90	7.90
16	7.90	7.80	7.80	7.40	7.40	7.40	8.00	7.90	7.90	8.00	7.90	8.00
17	7.90	7.90	7.90	7.40	7.40	7.40	7.90	7.60	7.70	7.90	7.80	7.90
18	7.90	7.90	7.90	7.40	7.30	7.40	7.70	7.70	7.70	7.80	7.60	7.60
19	7.90	7.80	7.90	7.40	7.30	7.30	7.80	7.50	7.70	7.60	7.60	7.60
20	7.80	7.70	7.70	7.40	7.30	7.30	7.70	7.50	7.60	7.70	7.60	7.60
21	7.90	7.80	7.90	7.40	7.30	7.30	7.50	7.50	7.50	7.70	7.60	7.70
22	7.90	7.90	7.90	7.40	7.40	7.40	7.60	7.50	7.50	7.80	7.70	7.80
23	7.90	7.90	7.90	7.40	7.30	7.40	7.70	7.60	7.60	7.80	7.80	7.80
24	7.90	7.90	7.90	7.40	7.40	7.40	7.70	7.70	7.70	7.90	7.80	7.80
25	7.90	7.90	7.90	7.50	7.40	7.40	7.80	7.70	7.70	7.80	7.50	7.70
26	7.90	7.90	7.90	7.50	7.40	7.40	7.80	7.70	7.70	7.60	7.50	7.60
27	7.90	7.80	7.80	7.50	7.40	7.40	7.90	7.60	7.70	7.70	7.50	7.60
28	7.90	7.80	7.90	7.50	7.40	7.40	7.70	7.70	7.70	7.80	7.70	7.70
29	---	---	---	7.60	7.40	7.50	7.70	7.70	7.70	7.90	7.80	7.90
30	---	---	---	7.60	7.50	7.50	7.70	7.70	7.70	7.90	7.90	7.90
31	---	---	---	7.60	7.50	7.60	---	---	---	8.00	7.90	7.90
MONTH	7.90	7.10	7.80	8.10	7.30	7.58	8.00	7.30	7.66	8.00	7.40	7.78

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.70	7.50	7.60	7.70	7.70	7.70			---	---	---	---
2	7.60	7.50	7.50	7.70	7.70	7.70			---	---	---	---
3	7.50	7.40	7.50	7.70	7.60	7.70			---	---	---	---
4	7.50	7.40	7.40	7.70	7.60	7.70			---	---	---	---
5	7.50	7.50	7.50	---	---	---			---	---	---	---
6	7.60	7.50	7.50	---	---	---			---	---	---	---
7	7.60	7.50	7.60	---	---	---			---	---	---	---
8	7.70	7.60	7.60	---	---	---			---	---	---	---
9	7.70	7.50	7.60	---	---	---			---	---	---	---
10	7.70	7.60	7.60	---	---	---			---	---	---	---
11	7.70	7.70	7.70	---	---	---			---	8.10	8.00	8.00
12	7.70	7.70	7.70	---	---	---			---	8.20	8.10	8.10
13	7.80	7.70	7.70	---	---	---			---	8.20	8.10	8.20
14	7.80	7.70	7.80	---	---	---			---	8.20	8.10	8.20
15	7.80	7.70	7.70	---	---	---			---	8.20	8.10	8.10
16	7.70	7.60	7.70	---	---	---			---	8.10	8.10	8.10
17	7.70	7.50	7.70	---	---	---			---	8.20	8.10	8.10
18	7.70	7.70	7.70	---	---	---			---	8.10	8.00	8.00
19	7.70	7.70	7.70	---	---	---			---	8.10	8.00	8.00
20	7.70	7.70	7.70	---	---	---			---	8.10	7.90	8.00
21	7.80	7.70	7.70	---	---	---			---	8.00	7.90	7.90
22	7.80	7.70	7.70	---	---	---			---	8.00	7.90	7.90
23	7.80	7.70	7.80	---	---	---			---	7.90	7.80	7.90
24	7.80	7.70	7.70	---	---	---			---	7.80	7.70	7.80
25	7.70	7.70	7.70	---	---	---			---	8.00	7.80	7.90
26	7.70	7.70	7.70	---	---	---			7.30	8.10	8.00	8.00
27	7.70	7.70	7.70	---	---	---			7.30	8.00	7.90	8.00
28	7.70	7.60	7.70	---	---	---			7.40	8.00	7.80	7.90
29	7.70	7.60	7.70	---	---	---			7.50	7.80	7.60	7.80
30	7.70	7.70	7.70	---	---	---			7.90	7.90	7.80	7.90
31	---	---	---	---	---	---			8.00	---	---	---
MONTH	7.80	7.40	7.65	7.70	7.60	7.70			7.57	8.20	7.60	7.99

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	21.5	20.0	21.0	19.5	18.5	19.0	16.0	14.0	14.5	14.5	13.5	14.0
2	22.5	20.5	21.5	20.0	18.5	19.0	14.0	12.5	13.5	15.0	13.5	14.0
3	24.0	22.0	23.0	20.0	18.5	19.5	13.5	12.0	13.0	15.0	13.5	14.0
4	24.0	23.0	23.5	20.5	18.5	19.5	15.5	13.5	14.5	15.0	13.5	14.5
5	24.0	22.0	23.0	21.0	19.0	20.0	16.0	15.0	15.5	14.0	12.5	13.5
6	23.5	21.5	22.5	21.5	19.5	20.5	16.5	15.0	15.5	13.5	12.0	13.0
7	24.0	21.5	22.5	21.0	19.5	20.0	17.0	15.5	16.0	13.0	12.0	13.0
8	24.0	23.0	23.5	20.5	19.0	19.5	17.5	16.0	16.5	12.0	11.0	11.5
9	25.5	23.5	24.5	21.5	20.0	21.0	19.0	16.5	18.0	13.5	11.0	12.0
10	25.0	23.5	24.5	22.5	21.0	21.5	19.0	13.0	17.0	14.0	12.0	12.5
11	25.5	23.5	24.5	21.0	18.5	19.0	14.5	12.0	13.0	14.5	12.5	13.5
12	26.0	24.5	25.0	21.5	19.5	20.5	12.5	11.5	12.0	15.0	13.0	14.0
13	27.0	25.5	26.0	22.5	21.5	22.0	12.0	11.0	11.5	15.0	13.5	14.0
14	26.5	25.5	26.0	23.5	22.5	23.0	12.5	9.5	11.5	15.5	13.5	14.5
15	25.5	24.5	25.0	23.0	16.5	19.0	13.0	9.5	11.0	15.5	13.5	14.5
16	25.0	23.5	24.5	17.0	16.0	16.5	14.5	12.5	13.5	16.0	15.0	15.5
17	24.5	24.0	24.5	18.0	17.0	17.5	15.0	13.5	14.0	17.5	16.0	17.0
18	24.5	23.0	24.0	21.5	18.5	20.0	14.5	10.5	13.5	17.5	16.5	17.0
19	23.5	22.5	22.5	21.5	19.5	21.0	14.0	11.0	12.5	17.0	15.5	16.5
20	22.5	22.0	22.5	19.5	17.5	18.5	14.0	13.0	13.5	17.5	15.5	16.5
21	23.0	22.5	22.5	18.5	17.0	17.5	14.5	13.0	13.5	18.0	16.5	17.0
22	24.0	23.0	23.5	18.5	17.5	18.0	16.0	13.5	14.5	16.5	15.0	16.0
23	25.5	23.5	24.5	21.0	18.0	19.5	16.0	14.5	15.0	15.5	14.5	15.0
24	26.0	24.5	25.0	20.0	19.0	19.5	15.5	14.5	15.0	15.5	14.5	15.0
25	26.0	25.0	25.5	---	---	---	14.0	12.0	13.0	16.0	14.5	15.5
26	25.5	24.5	25.0	---	---	---	13.0	11.5	12.0	15.0	14.0	14.5
27	24.5	23.5	24.0	18.5	16.5	17.5	14.0	12.0	13.0	14.0	13.0	13.5
28	23.0	21.5	22.5	16.5	16.0	16.0	14.0	12.5	13.0	15.0	13.0	14.0
29	20.5	18.5	19.0	16.0	15.5	15.5	14.5	12.5	13.5	16.0	14.0	15.0
30	19.0	18.0	18.5	17.0	15.5	16.0	15.0	13.0	14.0	16.5	14.5	15.5
31	19.5	18.5	19.0	---	---	---	15.0	14.0	14.5	17.5	15.5	16.5
MONTH	27.0	18.0	23.5	23.5	15.5	19.0	19.0	9.5	14.0	18.0	11.0	14.5

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	18.0	17.0	17.5	13.0	11.5	12.5	21.5	20.5	21.0	21.5	21.0	21.5
2	19.0	18.0	19.5	14.0	12.5	13.0	22.0	21.0	21.5	22.0	20.5	21.5
3	18.5	16.5	17.5	14.0	13.0	13.5	22.0	21.0	21.5	22.0	21.0	21.5
4	17.0	16.0	16.5	15.5	13.0	14.0	21.5	19.5	20.5	22.5	20.5	21.5
5	16.5	13.0	15.5	16.5	14.5	15.5	21.5	20.0	21.0	21.5	21.0	21.5
6	14.0	13.0	13.5	18.0	16.0	17.0	23.0	21.0	22.0	22.0	21.0	21.5
7	13.0	12.0	12.5	17.5	16.5	17.0	24.5	22.0	23.0	22.0	21.5	22.0
8	12.5	10.5	11.0	17.5	16.5	16.5	25.0	23.0	24.0	22.5	21.5	22.0
9	10.5	9.5	10.0	19.0	17.0	17.5	23.0	21.0	21.5	23.0	21.5	22.0
10	9.5	8.5	9.0	18.5	17.5	18.5	21.5	20.0	21.0	22.0	21.5	22.0
11	9.0	8.0	8.5	18.5	17.0	17.5	20.0	19.0	19.5	23.0	21.5	22.0
12	9.0	8.5	8.5	18.5	16.5	17.5	19.0	14.5	17.5	24.0	22.5	23.5
13	8.5	8.5	8.5	18.0	17.0	17.5	19.5	18.0	18.5	24.0	23.0	23.5
14	9.5	8.5	9.0	18.5	17.0	17.5	20.5	19.0	19.5	23.0	22.0	22.5
15	9.5	9.0	9.0	18.5	17.0	17.5	19.5	18.5	19.0	22.5	21.5	22.0
16	10.5	9.0	10.0	18.5	17.0	18.0	19.5	18.0	19.0	22.5	22.0	22.0
17	11.0	10.0	10.5	18.5	17.5	18.0	19.0	18.5	19.0	22.0	21.0	21.5
18	11.5	10.5	11.0	19.0	17.5	18.0	19.0	18.5	19.0	21.5	20.5	20.5
19	11.5	10.5	11.0	17.5	16.5	17.0	19.5	17.5	19.0	22.0	20.0	20.5
20	12.0	11.0	11.5	17.0	15.5	16.5	18.5	18.0	18.5	23.5	21.0	22.0
21	11.0	10.0	10.5	17.5	15.5	16.5	19.0	18.0	18.5	23.5	21.5	22.5
22	11.0	10.0	10.5	18.0	15.5	16.5	21.0	18.5	19.5	23.0	22.0	22.5
23	11.0	10.0	10.5	19.0	16.0	17.5	21.0	19.0	20.0	23.0	22.0	22.5
24	11.5	10.5	11.0	20.0	17.0	18.5	21.0	19.0	20.0	23.0	22.5	22.5
25	12.0	11.0	11.5	20.0	18.0	19.0	21.0	19.5	20.5	22.5	17.5	20.5
26	12.0	11.5	11.5	20.0	18.5	19.0	22.0	20.5	21.0	22.5	20.0	21.0
27	13.0	11.5	12.5	21.5	19.0	20.0	21.5	21.0	21.0	23.5	22.0	22.5
28	12.5	11.5	12.0	22.0	19.5	20.5	21.5	20.0	21.0	23.0	22.0	23.0
29	---	---	---	22.0	20.0	21.0	22.0	21.0	21.5	23.5	22.5	23.0
30	---	---	---	22.0	20.0	21.0	22.5	20.5	21.5	23.5	23.0	23.0
31	---	---	---	22.0	20.5	21.0	---	---	---	23.5	22.5	23.0
MONTH	19.0	8.0	12.0	22.0	11.5	17.5	25.0	14.5	20.5	24.0	17.5	22.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	23.0	22.5	23.0	26.0	25.5	25.5	32.5	30.5	31.5	27.0	25.0	26.0
2	24.0	23.0	23.5	26.0	25.5	25.5	32.0	30.5	31.5	25.5	24.5	24.5
3	24.0	23.0	23.5	26.5	25.5	26.0	31.5	30.0	30.5	26.5	25.0	25.5
4	25.0	23.5	24.0	26.5	25.5	26.0	29.0	28.0	28.5	28.0	26.0	27.0
5	25.0	24.5	25.0	27.0	25.5	26.5	29.5	27.5	28.5	28.0	26.5	27.0
6	25.5	24.5	25.0	27.5	26.5	27.0	30.5	28.5	29.5	27.0	26.0	26.5
7	26.0	25.0	25.5	26.5	25.5	26.0	31.0	29.0	30.0	26.0	24.0	25.5
8	26.0	25.5	26.0	27.0	25.5	26.5	31.0	29.0	30.0	27.0	25.0	26.0
9	25.5	25.0	25.0	27.0	26.0	27.0	31.5	29.5	30.5	27.0	26.0	26.5
10	26.0	24.5	25.0	27.0	26.0	26.5	30.5	26.0	29.0	27.0	26.0	26.5
11	25.5	24.5	25.0	27.0	26.0	26.5	29.5	26.5	28.0	26.5	25.5	26.0
12	25.5	24.5	25.0	27.0	26.0	26.5	30.0	28.0	28.5	26.5	25.5	26.0
13	26.0	25.0	25.5	26.5	26.0	26.0	30.5	28.5	29.5	26.5	25.5	26.0
14	25.5	25.0	25.5	27.0	26.0	26.5	31.0	28.5	30.0	27.0	26.0	26.5
15	25.0	25.0	25.0	27.5	26.5	27.0	31.5	29.0	30.0	28.0	26.0	27.0
16	25.0	24.5	24.5	27.5	26.5	27.0	31.5	29.5	30.5	28.5	26.5	27.5
17	25.0	24.0	24.5	28.5	26.5	27.5	32.5	30.0	31.0	28.5	27.0	27.5
18	25.5	24.5	25.0	29.5	27.0	28.0	32.0	31.0	31.5	28.5	27.0	28.0
19	25.5	25.0	25.0	30.0	28.0	29.0	32.5	30.5	31.0	29.0	27.5	28.0
20	26.0	25.0	25.5	30.5	29.0	29.5	31.5	30.0	31.0	28.5	27.5	28.0
21	26.0	25.0	25.5	30.5	28.5	29.5	31.0	29.5	30.0	29.0	27.5	28.0
22	26.0	25.5	26.0	28.5	27.5	28.0	30.5	28.5	29.5	28.5	27.5	28.0
23	26.5	25.5	26.0	29.5	28.0	29.0	30.5	29.0	29.5	29.0	27.5	28.0
24	26.0	25.5	26.0	32.0	29.0	30.0	30.0	28.0	29.0	29.0	27.5	28.0
25	26.5	25.5	26.0	32.0	30.0	31.0	30.0	28.0	29.0	28.5	27.5	28.0
26	26.5	25.5	26.0	32.5	30.0	31.5	31.0	29.0	30.0	29.0	27.0	28.0
27	26.5	25.5	26.0	32.5	30.5	31.5	30.5	29.5	30.0	29.0	27.0	28.0
28	26.5	25.5	26.0	32.5	30.0	31.5	29.5	28.0	28.5	28.5	27.0	27.5
29	26.5	25.5	26.0	32.5	30.0	31.5	29.0	27.0	28.0	28.5	27.0	27.5
30	26.5	25.5	26.0	32.5	30.5	31.5	---	---	---	28.5	27.0	27.5
31	---	---	---	32.5	30.5	31.5	---	---	---	---	---	---
MONTH	26.5	22.5	25.0	32.5	25.5	28.0	32.5	26.0	30.0	29.0	24.0	27.0

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.2	5.4	6.7	7.4	6.7	7.2	8.9	8.4	8.7	7.9	7.3	7.6
2	7.4	6.3	7.0	7.2	7.0	7.1	9.5	8.5	8.8	7.9	7.4	7.7
3	7.0	5.2	6.6	7.1	7.0	7.1	9.5	9.2	9.4	7.9	7.3	7.6
4	6.9	6.7	6.8	7.3	6.9	7.1	9.1	8.6	8.9	8.1	7.4	7.7
5	6.8	6.5	6.6	7.1	6.9	7.0	8.6	8.4	8.5	8.2	7.7	8.0
6	6.9	6.5	6.7	7.0	6.9	7.0	8.5	7.9	8.2	8.2	7.5	7.9
7	7.4	6.7	7.0	7.1	6.8	6.9	8.2	7.8	8.0	8.1	7.4	7.6
8	7.1	6.5	6.8	6.9	6.6	6.7	7.6	7.0	7.3	8.9	7.7	8.3
9	6.8	6.1	6.5	6.7	6.3	6.5	7.1	6.2	6.6	8.9	8.0	8.5
10	6.7	5.3	6.3	6.5	6.0	6.3	9.5	6.0	7.5	8.5	7.8	8.1
11	6.2	5.0	5.7	6.9	6.2	6.6	9.5	8.3	8.9	8.3	7.4	7.8
12	6.5	5.8	6.3	6.4	5.9	6.2	9.6	8.7	9.2	8.3	7.4	7.8
13	6.7	6.2	6.5	6.3	5.8	6.1	9.4	9.1	9.3	8.6	7.4	8.0
14	7.1	5.9	6.5	6.3	4.5	5.6	11.1	9.1	9.6	8.6	7.7	8.1
15	6.5	5.7	6.0	8.5	4.8	6.8	11.0	9.2	10.1	8.7	8.0	8.4
16	6.7	5.9	6.4	8.0	6.8	7.4	9.2	8.7	8.9	8.6	7.7	8.2
17	6.7	5.6	6.3	7.7	7.0	7.4	8.7	8.3	8.5	8.0	7.4	7.7
18	6.5	5.0	5.8	7.4	5.7	7.1	10.8	8.4	9.0	7.6	7.1	7.3
19	6.6	6.0	6.3	6.9	6.5	6.7	10.3	8.3	8.9	7.8	7.0	7.3
20	6.3	5.4	5.6	7.3	6.8	7.1	8.5	8.1	8.2	8.7	7.1	7.4
21	6.1	5.5	5.7	7.2	6.9	7.1	8.2	7.3	8.0	7.7	7.1	7.3
22	6.2	5.8	6.1	7.4	7.0	7.2	7.4	6.7	7.0	7.5	7.0	7.1
23	6.0	5.7	5.9	7.3	7.0	7.1	7.1	6.4	6.9	7.3	7.0	7.1
24	5.8	5.1	5.7	7.2	7.0	7.1	7.0	6.1	6.6	7.1	7.0	7.0
25	5.6	5.0	5.4	---	---	---	8.2	6.9	7.5	7.1	6.9	7.0
26	5.5	5.2	5.4	---	---	---	8.2	8.0	8.2	7.1	6.9	7.0
27	5.7	5.4	5.6	8.0	7.2	7.8	8.1	7.5	7.7	7.2	6.8	7.0
28	5.9	5.7	5.9	7.9	7.3	7.6	7.8	7.6	7.7	7.2	6.8	7.0
29	7.4	6.1	7.0	8.2	8.0	8.1	7.8	7.6	7.7	7.3	7.0	7.2
30	7.4	6.8	7.1	8.8	8.0	8.2	7.8	7.4	7.7	8.4	7.1	7.5
31	7.0	6.8	6.9	---	---	---	7.6	7.1	7.3	7.4	6.9	7.1
MONTH	7.4	5.0	6.3	8.8	4.5	7.0	11.1	6.0	8.2	8.9	6.8	7.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.4	6.7	7.0	10.5	10.2	10.3	5.9	5.3	5.6	7.7	3.9	6.7
2	7.2	6.9	7.0	10.2	9.9	10.0	5.8	5.1	5.3	7.3	4.5	6.5
3	9.5	7.2	8.2	10.0	9.6	9.8	5.5	4.7	5.2	7.7	6.8	7.2
4	10.3	3.9	7.9	9.9	8.9	9.4	7.0	.2	3.8	7.9	7.6	7.8
5	9.3	8.8	9.0	8.9	8.2	8.5	6.8	3.1	5.7	7.9	7.7	7.8
6	9.3	8.9	9.0	8.1	7.5	7.8	5.6	3.2	5.1	7.9	7.6	7.8
7	9.7	9.0	9.3	7.8	7.5	7.7	5.6	5.1	5.4	7.8	7.6	7.7
8	9.8	9.5	9.6	8.0	7.6	7.8	5.2	4.5	5.0	7.7	7.1	7.6
9	10.3	9.8	10.0	8.0	7.7	7.9	5.8	5.1	5.5	7.5	4.8	6.7
10	10.4	10.1	10.3	7.9	7.3	7.7	7.1	5.7	6.5	6.5	4.7	5.8
11	11.4	10.4	10.9	7.8	6.6	7.4	7.5	7.1	7.3	6.4	5.9	6.2
12	12.5	11.0	11.7	7.4	6.6	7.0	8.7	6.5	7.9	7.2	6.5	6.9
13	12.5	12.4	12.4	7.4	6.9	7.2	8.0	7.4	7.7	7.8	7.0	7.5
14	12.4	12.2	12.3	7.7	6.7	7.2	7.8	7.3	7.5	8.1	7.8	8.0
15	12.3	12.2	12.3	7.7	6.7	7.1	8.4	7.8	8.2	8.2	8.1	8.1
16	12.2	11.8	12.0	7.1	6.9	7.0	8.5	8.4	8.5	8.3	8.1	8.2
17	11.9	11.7	11.8	7.0	6.6	6.8	8.5	8.0	8.3	8.2	6.8	7.5
18	11.7	11.6	11.7	7.2	6.0	6.5	8.5	8.1	8.4	6.7	5.3	5.7
19	11.7	11.5	11.6	7.7	7.1	7.4	8.6	6.9	8.0	5.9	5.4	5.6
20	11.7	11.6	11.6	7.6	6.7	7.3	7.4	4.2	5.8	6.5	6.0	6.3
21	11.8	11.6	11.8	7.6	7.2	7.5	6.4	5.5	6.0	8.0	6.6	7.4
22	12.0	11.8	11.9	7.5	7.2	7.4	6.9	6.4	6.7	8.4	8.0	8.3
23	12.0	11.8	11.9	7.3	6.9	7.1	8.2	6.9	7.7	8.5	8.3	8.4
24	11.9	11.8	11.9	7.0	6.7	6.8	8.3	8.1	8.2	8.5	8.4	8.4
25	11.9	11.8	11.8	7.1	6.6	6.8	8.3	8.1	8.2	8.5	5.6	6.7
26	11.8	11.6	11.7	7.0	6.6	6.8	8.1	7.7	7.9	6.2	5.4	5.7
27	11.9	10.6	11.3	6.6	6.2	6.4	7.8	7.0	7.5	7.2	6.2	6.7
28	10.7	10.4	10.6	6.4	6.0	6.2	7.7	7.3	7.6	8.2	7.2	7.7
29	---	---	---	6.2	5.7	5.9	7.7	7.5	7.6	8.6	8.2	8.4
30	---	---	---	6.2	5.6	5.9	8.1	7.3	7.6	8.7	8.5	8.6
31	---	---	---	6.5	5.5	5.9	---	---	---	8.7	7.8	8.5
MONTH	12.5	3.9	10.7	10.5	5.5	7.4	8.7	.2	6.9	8.7	3.9	7.3

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.6	6.2	6.9	8.5	8.1	8.3	5.2	4.5	4.8	6.0	4.7	5.5
2	6.1	4.9	5.5	8.4	8.2	8.3	5.4	4.0	4.8	5.7	4.6	5.3
3	5.3	5.0	5.1	8.5	7.8	8.3	5.3	4.2	4.8	5.9	5.5	5.7
4	5.2	4.9	5.0	8.4	7.7	8.1	6.0	1.4	4.0	6.3	4.1	5.7
5	5.7	4.8	5.2	8.1	7.0	7.8	5.1	4.0	4.5	6.2	5.2	5.6
6	5.7	5.3	5.4	7.8	6.6	7.2	5.6	5.1	5.5	5.9	5.2	5.7
7	5.9	5.2	5.6	8.2	7.9	8.1	5.9	5.4	5.7	6.5	5.3	5.8
8	6.9	5.9	6.4	8.2	8.0	8.1	5.8	5.6	5.7	6.2	5.8	6.0
9	7.0	5.9	6.4	8.0	7.2	7.3	6.2	5.5	5.8	6.7	6.1	6.5
10	6.6	6.3	6.4	7.5	7.0	7.3	8.9	4.3	5.9	7.0	6.9	7.0
11	7.3	6.6	7.0	7.6	7.4	7.5	5.7	4.1	5.0	7.2	7.0	7.1
12	7.3	6.9	7.1	7.7	7.5	7.6	6.0	4.8	5.5	7.3	6.9	7.3
13	7.6	7.3	7.5	7.7	7.5	7.6	5.9	5.4	5.7	7.4	7.3	7.3
14	7.9	7.5	7.7	7.8	7.6	7.7	6.0	4.1	5.6	7.3	7.1	7.2
15	7.9	7.7	7.8	7.7	7.5	7.6	5.9	5.5	5.7	7.3	6.9	7.1
16	7.6	6.7	7.2	7.8	7.4	7.6	6.1	5.4	5.8	7.1	6.8	6.9
17	7.2	6.9	7.0	7.4	6.6	7.1	6.2	5.7	6.0	6.8	6.4	6.7
18	7.9	7.1	7.5	6.6	4.8	5.7	6.5	5.1	5.9	6.8	6.3	6.5
19	7.9	7.6	7.8	5.3	4.1	4.9	6.1	5.1	5.8	6.7	6.1	6.4
20	7.8	7.5	7.7	5.4	4.0	5.0	6.3	5.5	6.0	6.6	5.9	6.3
21	7.9	7.6	7.8	5.6	2.4	4.9	6.1	5.5	5.9	6.6	6.1	6.4
22	8.2	7.8	8.0	5.0	.2	2.6	6.0	5.4	5.7	6.6	5.9	6.3
23	8.3	7.9	8.1	4.8	3.8	4.3	6.1	5.4	5.8	6.1	5.4	5.8
24	8.1	7.9	8.1	5.2	4.2	4.9	6.4	4.7	5.7	6.1	5.3	5.9
25	8.0	7.7	7.8	4.9	4.7	4.8	5.3	4.5	4.8	6.3	5.8	6.1
26	8.1	7.8	8.0	4.9	4.6	4.7	5.4	5.0	5.2	6.2	5.6	5.9
27	8.2	7.9	8.1	5.1	4.6	4.8	5.6	4.8	5.2	5.8	5.5	5.6
28	8.3	7.8	8.0	5.3	4.7	5.0	5.3	4.9	5.1	6.1	4.4	5.7
29	8.4	7.8	8.1	5.7	4.8	5.3	5.7	5.0	5.4	5.1	2.8	4.3
30	8.4	8.1	8.2	5.6	4.5	5.1	5.9	5.2	5.4	5.7	4.8	5.4
31	---	---	---	5.3	4.6	4.9	6.1	5.4	5.6	---	---	---
MONTH	8.4	4.8	7.1	8.5	.2	6.4	8.9	1.4	5.4	7.4	2.8	6.2

08057200 WHITE ROCK CREEK AT GREENVILLE AVENUE, DALLAS, TX

LOCATION.--Lat 32°53'21", long 96°45'23", Dallas County, Hydrologic Unit 12030105, on left bank 20 ft upstream from bridge on Greenville Avenue in Dallas, 1.1 mi downstream from Texas and New Orleans Railroad Co. bridge, 1.2 mi downstream from Cottonwood Creek, 2.9 mi upstream from White Rock Lake, and 8.2 mi northeast of Dallas County Courthouse.

DRAINAGE AREA.--66.4 mi².

PERIOD OF RECORD.--August 1961 to September 1980, April 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 24, 1961, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: June 10, 13-14, 18, 21-23, 26-29; July 2 to Aug. 2; Aug. 5-31; Sept. 4, 7-27, and 30. Records fair except those for estimated daily discharges, which are poor. Some regulation at low flow by main and tributary channel dams from which many small diversions are made. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years (water years 1962-80, 85-86), 58.7 ft³/s (12.01 in/yr), 42,530 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD..--Maximum discharge, 38,100 ft³/s Sept. 21, 1964 (elevation, 490.43 ft); minimum daily, 0.01 ft³/s July 8, 1970, June 27, July 14, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation since at least 1866, that of Sept. 21, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base discharge of 2,900 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Apr. 5	0100	3,920	483.67	May 17	1500	4,420	484.16
Apr. 12	0315	24,600	488.20	May 31	2115	19,400	487.69
Apr. 19	1615	23,300	488.07	June 1	2130	6,490	485.51
May 9	2345	*36,800	489.33	Aug. 3	1915	7,990	486.28
May 17	0945	4,830	484.47				

Minimum daily discharge, 3.3 ft³/s Aug. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	34	112	19	17	21	15	232	1470	35	6.5	151
2	17	29	41	14	19	21	16	39	426	22	5.9	273
3	14	23	37	15	354	21	48	29	456	18	871	29
4	12	20	33	15	72	22	238	28	144	23	54	22
5	11	19	32	14	431	20	856	26	600	28	27	104
6	11	20	29	15	227	19	57	25	84	22	18	49
7	10	19	27	16	72	19	38	28	131	20	10	25
8	11	17	27	18	69	19	31	89	48	17	7.8	18
9	10	17	25	21	88	20	25	1820	58	14	5.0	12
10	32	17	284	14	57	92	24	4260	25	17	4.7	9.5
11	23	28	153	15	43	39	23	99	140	14	50	7.2
12	13	17	65	12	41	39	2450	69	29	10	24	6.0
13	12	18	42	15	39	33	71	58	25	8.0	15	5.1
14	15	24	31	14	34	26	54	51	20	7.0	9.5	3.8
15	23	664	28	11	33	26	39	48	387	6.8	7.2	3.6
16	13	67	29	15	32	21	33	42	226	7.5	4.9	5.2
17	20	101	30	16	31	19	103	2000	64	7.9	4.0	8.8
18	148	212	26	17	28	136	36	212	29	7.1	3.8	5.2
19	677	90	26	16	27	29	2460	102	47	6.5	3.5	5.0
20	61	40	24	16	25	19	184	74	67	20	3.3	4.5
21	34	26	24	16	25	20	72	63	30	54	4.9	7.5
22	26	33	23	16	24	17	58	50	23	29	5.5	15
23	23	31	22	15	25	20	44	46	19	20	6.0	8.8
24	20	31	21	16	27	17	41	72	358	13	6.5	6.5
25	19	30	19	17	23	17	29	81	90	10	5.5	4.9
26	19	172	19	17	28	17	29	44	30	8.2	5.0	4.5
27	17	558	19	16	22	17	144	46	20	7.0	5.9	4.2
28	18	64	16	16	21	16	34	38	18	6.1	4.9	6.5
29	528	46	17	16	---	17	24	35	12	6.5	4.2	35
30	99	89	18	17	---	16	122	30	121	6.3	3.9	20
31	41	---	18	18	---	16	---	2140	---	6.0	20	---
TOTAL	2008	2556	1317	488	1934	851	7398	11976	5197	476.9	1207.4	859.8
MEAN	64.8	85.2	42.5	15.7	69.1	27.5	247	386	173	15.4	38.9	28.7
MAX	677	664	284	21	431	136	2460	4260	1470	54	871	273
MIN	10	17	16	11	17	16	15	25	12	6.0	3.3	3.6
CFSM	.98	1.28	.64	.24	1.04	.41	3.72	5.81	2.61	.23	.59	.43
IN.	1.12	1.43	.74	.27	1.08	.48	4.14	6.71	2.91	.27	.68	.48
AC-FT	3980	5070	2610	968	3840	1690	14670	23750	10310	946	2390	1710

CAL YR 1985 TOTAL 28271.9 MEAN 77.5 MAX 2220 MIN 5.6 CFSM 1.17 IN. 15.84 AC-FT 56080
WTR YR 1986 TOTAL 36269.1 MEAN 99.4 MAX 4260 MIN 3.3 CFSM 1.50 IN. 20.32 AC-FT 71940

08057410 TRINITY RIVER BELOW DALLAS, TX

LOCATION.--Lat 32°42'26", long 96°44'08", Dallas County, Hydrologic Unit 12030105, on right bank at downstream side of bridge on South Loop Highway 12, 1.0 mi downstream from White Rock Creek, 1.5 mi upstream from Fivemile Creek, 6.4 mi southeast of Dallas County Courthouse in Dallas, and at mile 491.8.

DRAINAGE AREA.--6,278 mi².

WATER-DSICHARGE RECORDS

PERIOD OF RECORD.--November 1956 to September 1961 (monthly records only), October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1-2, 6-17, 25-26, Nov. 11-19, 21-27, Dec. 14 to Jan. 8, Jan. 27-29, and Feb. 3-13. Records poor. Flow is affected at times by eight upstream reservoirs with a combined capacity of 1,714,400 acre-ft, of which 846,200 acre-ft is for flood control. Several cities with the Fort Worth-Dallas metroplex divert water for municipal use and return it to the river as sewage effluents above this station. Low flows are sustained by sewage effluents.

AVERAGE DISCHARGE.--29 years (water years 1958-86), 1,811 ft³/s (1,312,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,700 ft³/s May 27, 1957 (gage height, 32.02 ft); minimum daily, 131 ft³/s Dec. 9, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 25, 1908, reached a stage of 41.1 ft, from information by U.S. Army Corps of Engineers, and is the highest since that date. Floods in 1866 and 1908 reached about the same stage at Dallas.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,500 ft³/s June 3 at 0100 hours (gage height, 26.40 ft); minimum daily, 560 ft³/s Jan. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1100	914	1420	600	622	1600	624	3170	9110	5120	690	833
2	830	850	1100	605	638	1390	624	3220	15800	5110	682	4410
3	714	784	854	605	1250	1340	610	2260	16900	4990	667	5280
4	665	674	727	605	3600	1110	1760	2110	15100	5160	2710	1990
5	639	615	677	600	2000	860	4450	2040	13000	4460	2020	1460
6	620	590	656	600	5000	748	3700	2040	11100	2540	959	2100
7	620	566	617	595	2800	736	1320	2010	8680	2600	850	2040
8	620	595	613	590	2500	743	868	2040	6940	2600	765	1360
9	660	590	610	580	2500	734	794	3150	6980	2480	731	1250
10	700	584	1080	578	2800	805	1020	5770	8450	2690	1190	1990
11	750	590	2830	580	2700	896	1340	7290	8280	3070	2220	2960
12	720	690	2000	560	2600	979	3730	4270	8620	3300	1530	3360
13	720	600	1120	574	3200	833	3940	2960	8530	3380	962	3400
14	760	590	1250	593	3800	834	2010	3290	8250	3380	800	2230
15	720	605	1150	616	3950	994	1970	3700	7700	3410	699	1470
16	700	4400	780	614	3960	772	2300	3920	7970	3270	684	1260
17	690	4000	770	604	3980	745	2550	5960	8870	2410	634	958
18	1480	1200	750	593	3960	1050	2590	11000	9210	1160	673	928
19	5090	1000	730	594	3940	1440	3160	9380	8890	767	672	776
20	6200	1070	710	612	3930	953	8460	4670	8490	719	658	721
21	2760	720	700	609	3930	803	7560	2640	8210	790	661	721
22	1120	600	680	622	3890	717	2640	3350	7960	1440	649	773
23	863	630	680	628	3840	677	2090	3870	7730	1190	620	681
24	793	620	670	639	3860	639	1750	3970	7550	899	660	654
25	730	660	660	619	3810	650	1800	5450	7490	793	832	649
26	700	640	660	614	3700	651	2100	6290	7400	735	712	636
27	633	1450	640	620	3410	646	2240	2680	6880	702	624	627
28	646	2720	620	630	2180	627	1750	2660	6200	715	654	692
29	2000	1170	615	625	---	609	1480	3610	5620	715	644	798
30	2430	893	610	625	---	593	1410	3890	5330	720	595	761
31	1330	---	600	629	---	611	---	4220	---	702	568	---
TOTAL	39003	31610	27579	18758	88350	26785	72640	126880	267240	72017	28015	47768
MEAN	1258	1054	890	605	3155	864	2421	4093	8908	2323	904	1592
MAX	6200	4400	2830	639	5000	1600	8460	11000	16900	5160	2710	5280
MIN	620	566	600	560	622	593	610	2010	5330	702	568	627
AC-FT	77360	62700	54700	37210	175200	53130	144100	251700	530100	142800	55570	94750

CAL YR 1985 TOTAL 687448 MEAN 1883 MAX 11700 MIN 449 AC-FT 1364000
WTR YR 1986 TOTAL 846645 MEAN 2320 MAX 16900 MIN 560 AC-FT 1679000

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1967 to current year. Pesticide analyses: October 1971 to July 1981.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to current year.
pH: January 1977 to current year.
WATER TEMPERATURES: October 1967 to current year.
DISSOLVED OXYGEN: January 1977 to current year.

INSTRUMENTATION.--Beginning October 1976, a four-parameter water-quality monitor records temperature, DO, pH, and specific conductance continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum or minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,130 microsiemens Dec. 17, 1977; minimum, 112 microsiemens Oct. 20, 1984.
pH: Maximum, 8.8 units Jan. 23, 1980; minimum, 6.8 units Sept. 17, 18, 1981.
WATER TEMPERATURES: Maximum, 35.0°C Aug. 20, 25, 28, 31, 1972; minimum, 1.0°C Jan. 29, 1968.
DISSOLVED OXYGEN: Maximum, 12.5 mg/L Feb. 8, 1982; minimum, 0.0 mg/L on many days during spring and summer of 1977-81.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 969 microsiemens Dec. 8; minimum, 270 microsiemens Sept. 2.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 14...	1000	590	734	7.30	22.5	5.3	62	5.9	140	0
JAN 30...	1100	560	792	7.40	15.0	6.2	61	17	160	1
APR 16...	1400	2470	450	7.40	19.5	7.8	85	2.8	140	25
JUN 18...	0845	9200	390	7.30	25.5	5.7	70	1.8	140	18
JUL 23...	1400	1160	620	7.40	28.0	4.2	54	5.5	140	0
SEP 11...	0830	2800	386	7.40	26.0	6.8	85	1.5	120	15

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 14...	48	5.3	79	3	17	142	85	66	1.2
JAN 30...	55	6.2	92	3	13	162	94	77	1.3
APR 16...	47	4.3	34	1	6.4	110	58	32	0.6
JUN 18...	47	4.7	22	0.9	5.3	119	35	21	0.4
JUL 23...	48	5.1	58	2	8.9	148	73	50	0.8
SEP 11...	41	3.9	29	1	6.3	103	42	25	0.5

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
NOV 14...	8.2	390	4.24	0.56	4.80	3.30	1.5	4.8	3.70
JAN 30...	8.6	440	3.90	1.00	4.90	3.60	3.4	7.0	4.10
APR 16...	4.8	250	1.93	0.27	2.20	0.64	0.96	1.6	1.20
JUN 18...	5.6	210	0.64	0.06	0.70	0.17	0.63	0.8	0.33
JUL 23...	8.7	340	4.70	0.20	4.90	1.40	1.9	3.3	1.20
SEP 11...	6.0	220	1.16	0.14	1.30	0.18	0.62	0.8	0.67

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	39003	573	327	34400	43	4530	74	7830	160
NOV. 1985	31610	595	339	28900	46	3890	77	6610	160
DEC. 1985	27579	631	360	26800	49	3680	82	6140	160
JAN. 1986	18758	777	444	22500	66	3320	100	5220	170
FEB. 1986	88350	448	255	60900	31	7340	57	13700	140
MAR. 1986	26785	666	380	27500	53	3820	87	6310	160
APR. 1986	72640	494	282	55200	35	6900	64	12500	150
MAY 1986	126880	451	257	88000	31	10600	58	19700	140
JUNE 1986	267240	398	227	163000	26	18900	51	36500	130
JULY 1986	72017	429	244	47500	30	5770	55	10700	130
AUG. 1986	28015	656	374	28300	53	3970	86	6510	160
SEPT 1986	47768	477	272	35100	34	4400	61	7920	140
TOTAL	846645	**	**	618000	**	77200	**	140000	**
WTD.AVG.	2320	475	271	**	34	**	61	**	140

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	541	434	483	651	599	624	691	593	618	767	725	750
2	647	549	586	679	621	650	---	---	669	759	717	740
3	709	637	670	685	669	675	---	---	692	785	763	776
4	747	707	720	709	657	674	---	---	720	797	757	782
5	737	713	723	---	---	710	---	---	730	775	711	741
6	737	703	721	---	---	750	---	---	732	777	745	761
7	755	717	735	---	---	752	789	719	737	795	773	784
8	767	733	750	---	---	770	969	705	751	801	745	775
9	751	723	740	---	---	779	743	691	716	781	755	771
10	757	721	738	---	---	760	771	298	625	791	761	779
11	761	639	686	---	---	765	515	314	443	803	763	785
12	737	685	708	---	---	763	601	501	566	---	---	790
13	719	701	707	---	---	780	655	607	628	---	---	796
14	707	428	637	---	---	742	699	635	655	---	---	800
15	665	553	605	763	350	571	707	627	645	---	---	783
16	675	655	662	456	406	437	737	669	688	---	---	770
17	723	677	692	515	454	488	757	717	738	---	---	774
18	---	---	650	619	462	527	779	661	760	---	---	772
19	---	---	580	595	496	545	763	645	694	---	---	770
20	---	---	496	689	593	617	779	741	764	---	---	748
21	---	---	482	783	677	708	787	757	774	---	---	762
22	---	---	470	777	733	750	789	623	753	---	---	760
23	---	---	502	773	350	758	595	422	504	---	---	790
24	---	---	586	755	725	735	408	364	383	---	---	785
25	---	---	602	755	725	731	364	324	343	---	---	787
26	---	---	610	763	541	730	352	320	328	---	---	780
27	---	---	615	498	304	437	715	358	519	---	---	789
28	---	---	589	531	454	495	775	733	760	---	---	790
29	---	---	455	617	535	577	757	727	746	---	---	796
30	---	---	480	803	615	650	779	735	762	---	---	800
31	---	---	510	---	---	---	787	757	773	---	---	810
MONTH	767	428	619	803	304	665	969	298	652	803	711	777

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	833	793	809	551	507	529	---	---	756	---	---	472
2	819	769	797	611	539	563	837	685	750	---	---	460
3	795	364	604	577	541	557	839	735	788	---	---	444
4	571	458	512	663	567	610	869	448	690	---	---	456
5	---	---	500	719	661	687	631	496	610	---	---	460
6	---	---	476	779	711	735	---	---	570	---	---	457
7	---	---	460	783	757	768	---	---	500	---	---	446
8	---	---	426	781	723	757	---	---	540	---	---	436
9	---	---	410	753	711	728	---	---	576	---	---	440
10	---	---	440	743	689	715	---	---	542	---	---	431
11	---	---	437	767	683	704	---	---	512	---	---	446
12	---	---	429	709	655	681	---	---	502	---	---	442
13	---	---	421	735	699	710	---	---	510	---	---	437
14	432	412	418	749	711	722	---	---	492	454	430	426
15	428	408	415	---	---	726	---	---	484	434	422	430
16	426	400	415	---	---	737	---	---	470	432	420	462
17	440	408	421	---	---	756	---	---	456	---	---	469
18	446	412	427	---	---	610	---	---	462	---	---	471
19	438	416	430	---	---	572	---	---	447	---	---	477
20	439	424	432	---	---	496	---	---	432	---	---	492
21	444	426	434	---	---	590	---	---	429	---	---	477
22	462	428	436	---	---	627	---	---	418	503	432	455
23	448	429	433	---	---	696	---	---	408	432	414	424
24	---	---	438	---	---	715	---	---	446	434	416	423
25	---	---	440	---	---	720	---	---	472	---	---	463
26	---	---	436	---	---	737	---	---	488	---	---	442
27	488	434	452	---	---	740	---	---	496	---	---	440
28	517	494	506	---	---	746	---	---	490	---	---	436
29	---	---	---	---	---	747	---	---	510	---	---	430
30	---	---	---	---	---	750	---	---	501	---	---	420
31	---	---	---	---	---	770	---	---	---	---	---	429
MONTH	833	364	473	783	507	684	869	448	525	503	414	448

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	418	358	352	355	---	---	870	741	575	707
2	---	---	426	364	350	359	---	---	900	525	270	340
3	---	---	427	370	358	364	---	---	850	408	310	354
4	---	---	436	386	334	368	---	---	440	523	418	467
5	---	---	428	---	---	375	---	---	470	599	472	506
6	430	420	425	---	---	386	---	---	600	537	406	475
7	446	426	435	---	---	384	---	---	690	432	296	392
8	---	---	429	---	---	396	---	---	750	537	432	487
9	---	---	420	---	---	406	---	---	780	551	464	510
10	---	---	416	---	---	418	---	---	620	470	398	438
11	---	---	410	---	---	406	---	---	440	394	378	385
12	---	---	402	---	---	396	---	---	480	398	368	383
13	---	---	397	---	---	386	---	---	650	432	382	406
14	---	---	390	---	---	346	---	---	730	464	410	438
15	---	---	396	---	---	359	---	---	780	480	460	472
16	---	---	395	---	---	360	---	---	800	540	468	495
17	---	---	392	---	---	420	---	---	821	584	544	564
18	398	374	389	---	---	560	---	---	818	620	572	597
19	398	382	391	---	---	680	---	---	818	672	622	648
20	394	372	381	---	---	700	---	---	830	676	658	667
21	382	370	374	---	---	690	---	---	815	680	642	664
22	370	356	362	---	---	512	---	---	814	678	638	654
23	358	352	355	---	---	630	---	---	817	700	650	678
24	356	350	352	---	---	670	---	---	730	716	684	700
25	356	348	352	---	---	730	---	---	680	794	670	741
26	352	346	349	---	---	770	---	---	685	844	794	815
27	354	346	350	---	---	780	727	647	683	837	750	797
28	356	350	353	---	---	775	759	627	681	806	517	756
29	354	350	352	---	---	778	763	591	669	749	533	660
30	354	350	353	---	---	800	763	587	676	780	729	752
31	---	---	---	---	---	810	781	659	725	---	---	---
MONTH	446	346	392	386	334	528	781	587	713	844	270	565

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.40	7.20	7.30	7.60	7.40	7.50	7.40	7.20	7.30	7.40	7.30	7.40
2	7.30	7.10	7.20	7.60	7.50	7.50	---	---	---	7.40	7.30	7.40
3	7.20	7.00	7.10	7.60	7.40	7.50	---	---	---	7.40	7.30	7.30
4	7.20	7.00	7.10	7.50	7.40	7.40	---	---	---	7.40	7.30	7.30
5	7.20	7.10	7.10	7.30	7.20	7.20	---	---	---	7.50	7.30	7.40
6	7.10	7.00	7.00	---	---	---	---	---	---	7.50	7.30	7.40
7	7.10	7.00	7.00	---	---	---	---	---	---	7.40	7.30	7.40
8	7.10	7.00	7.00	---	---	---	---	---	---	7.50	7.30	7.40
9	7.20	7.00	7.00	---	---	---	---	---	---	7.40	7.30	7.40
10	7.10	7.00	7.00	---	---	---	---	---	---	7.40	7.30	7.30
11	7.10	7.00	7.00	---	---	---	---	---	---	7.40	7.30	7.30
12	7.10	7.00	7.00	---	---	---	---	---	---	7.60	7.30	7.40
13	7.10	7.00	7.00	---	---	---	---	---	---	---	---	---
14	7.30	7.00	7.10	---	---	---	---	---	---	---	---	---
15	7.30	7.10	7.20	7.80	7.20	7.50	---	---	---	---	---	---
16	7.20	7.00	7.10	7.60	7.40	7.50	---	---	---	---	---	---
17	7.20	7.00	7.10	7.40	7.30	7.40	---	---	---	---	---	---
18	7.60	7.20	7.30	7.40	7.20	7.30	7.60	7.40	7.40	---	---	---
19	---	---	---	7.40	7.30	7.40	7.60	7.40	7.50	---	---	---
20	---	---	---	7.50	7.10	7.30	7.50	7.40	7.40	---	---	---
21	---	---	---	---	---	---	7.50	7.30	7.40	---	---	---
22	---	---	---	---	---	---	7.50	7.40	7.40	---	---	---
23	---	---	---	---	---	---	7.50	7.40	7.40	---	---	---
24	---	---	---	---	---	---	7.50	7.40	7.40	---	---	---
25	---	---	---	---	---	---	7.50	7.40	7.50	---	---	---
26	---	---	---	---	---	---	7.50	7.40	7.50	---	---	---
27	---	---	---	7.40	7.20	7.30	7.50	7.30	7.40	---	---	---
28	---	---	---	7.40	7.20	7.30	7.50	7.30	7.40	---	---	---
29	---	---	---	7.20	7.00	7.10	7.40	7.30	7.40	---	---	---
30	---	---	---	7.20	7.00	7.00	7.50	7.40	7.40	---	---	---
31	7.40	7.40	7.40	---	---	---	7.50	7.40	7.40	7.40	7.30	7.40
MONTH	7.60	7.00	7.11	7.80	7.00	7.35	7.60	7.20	7.41	7.60	7.30	7.37

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.40	7.30	7.40	7.60	7.50	7.60	---	---	---	---	---	---
2	7.40	7.30	7.40	7.60	7.50	7.50	---	---	---	---	---	---
3	7.50	7.30	7.40	7.60	7.40	7.50	7.50	7.40	7.40	---	---	---
4	7.50	7.30	7.40	7.50	7.40	7.40	7.60	7.30	7.40	---	---	---
5	---	---	---	7.40	7.30	7.40	---	---	---	---	---	---
6	---	---	---	7.40	7.20	7.30	---	---	---	---	---	---
7	---	---	---	7.40	7.30	7.30	---	---	---	---	---	---
8	---	---	---	7.40	7.30	7.30	---	---	---	---	---	---
9	---	---	---	7.50	7.30	7.40	---	---	---	---	---	---
10	---	---	---	7.40	7.30	7.30	---	---	---	---	---	---
11	---	---	---	7.40	7.30	7.30	---	---	---	---	---	---
12	---	---	---	7.50	7.30	7.30	---	---	---	---	---	---
13	8.00	7.90	7.90	7.40	7.20	7.30	---	---	---	---	---	---
14	8.00	7.90	7.90	7.40	7.30	7.40	---	---	---	7.70	7.60	7.60
15	7.90	7.90	7.90	7.50	7.30	7.40	7.80	7.70	7.80	7.70	7.60	7.70
16	7.90	7.80	7.90	7.40	7.30	7.40	8.00	7.40	7.70	7.80	7.70	7.70
17	7.90	7.70	7.80	---	---	---	---	---	---	7.90	7.70	7.80
18	7.90	7.70	7.80	---	---	---	---	---	---	---	---	---
19	7.80	7.70	7.70	---	---	---	---	---	---	---	---	---
20	7.80	7.60	7.70	---	---	---	---	---	---	---	---	---
21	7.80	7.70	7.70	---	---	---	---	---	---	7.60	7.40	7.50
22	7.80	7.70	7.70	---	---	---	---	---	---	7.70	7.60	7.70
23	7.80	7.70	7.70	---	---	---	---	---	---	7.80	7.70	7.70
24	7.80	7.70	7.70	---	---	---	---	---	---	7.80	7.70	7.70
25	7.90	7.70	7.80	---	---	---	---	---	---	---	---	7.70
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	7.70	7.60	7.60	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	8.00	7.30	7.69	7.60	7.20	7.30	8.00	7.30	7.58	7.90	7.40	7.68

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	7.10	7.00	7.00	---	---	---	7.60	7.40	7.50
2	---	---	---	7.10	7.00	7.10	---	---	---	7.80	7.50	7.70
3	---	---	---	7.10	7.00	7.10	---	---	---	7.70	7.50	7.60
4	---	---	---	7.10	7.00	---	---	---	---	7.70	7.50	7.60
5	7.60	7.50	7.60	---	---	---	---	---	---	7.70	7.40	7.60
6	7.70	7.60	7.70	---	---	---	---	---	---	7.70	7.50	7.60
7	7.70	7.70	7.70	---	---	---	---	---	---	7.80	7.50	7.60
8	---	---	---	---	---	---	---	---	---	7.60	7.40	7.50
9	---	---	---	---	---	---	---	---	---	7.60	7.40	7.50
10	---	---	---	---	---	---	---	---	---	7.80	7.50	7.70
11	---	---	---	---	---	---	---	---	---	7.50	7.40	7.50
12	---	---	---	---	---	---	---	---	---	7.50	7.40	7.50
13	---	---	---	---	---	---	---	---	---	7.60	7.50	7.50
14	---	---	---	---	---	---	---	---	---	7.60	7.40	7.50
15	---	---	---	---	---	---	---	---	---	7.40	7.30	7.40
16	---	---	---	---	---	---	---	---	---	7.40	7.20	7.30
17	---	---	---	---	---	---	---	---	---	7.30	7.20	7.30
18	7.40	7.30	7.40	---	---	---	---	---	---	7.30	7.10	7.20
19	7.40	7.30	7.30	---	---	---	---	---	---	7.40	7.20	7.20
20	7.30	7.30	7.30	---	---	---	---	---	---	7.30	7.10	7.20
21	7.30	7.30	7.30	---	---	---	---	---	---	7.40	7.10	7.20
22	7.40	7.30	7.30	---	---	---	---	---	---	7.40	7.10	7.20
23	7.30	7.20	7.30	---	---	---	---	---	---	7.20	7.10	7.10
24	7.30	7.20	7.30	---	---	---	---	---	---	7.20	7.10	7.10
25	7.20	7.10	7.20	---	---	---	---	---	---	7.20	7.10	7.20
26	7.20	7.10	7.10	---	---	---	---	---	---	7.20	7.10	7.20
27	7.20	7.10	7.10	---	---	---	7.40	7.20	7.30	7.20	7.10	7.20
28	7.10	7.00	7.10	---	---	---	7.40	7.20	7.20	7.30	7.10	7.20
29	7.10	7.00	7.10	---	---	---	7.30	7.20	7.20	7.20	7.10	7.10
30	7.10	7.00	7.00	---	---	---	7.40	7.30	7.40	7.30	7.10	7.20
31	---	---	---	---	---	---	7.40	7.40	7.40	---	---	---
MONTH	7.70	7.00	7.30	7.10	7.00	7.07	7.40	7.20	7.30	7.80	7.10	7.37

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	23.0	21.0	22.0	20.0	19.0	19.5	20.5	16.0	18.0	15.0	14.0	14.5
2	22.5	21.5	22.0	20.0	19.0	19.5	17.0	13.5	15.5	16.0	14.0	15.0
3	23.5	21.0	22.5	20.5	19.0	20.0	18.5	15.5	17.0	16.0	14.5	15.5
4	24.0	23.0	23.5	24.0	19.0	20.5	20.0	17.5	18.5	16.5	15.5	16.0
5	23.5	21.5	22.5	---	---	---	22.0	16.0	19.0	15.5	13.5	14.5
6	23.0	21.5	22.5	---	---	---	24.5	18.0	22.0	14.5	13.5	14.5
7	23.5	22.0	23.0	---	---	---	28.0	23.0	25.5	15.0	14.0	14.5
8	24.5	23.0	24.0	---	---	---	28.0	23.5	25.5	14.0	12.0	13.0
9	25.5	24.0	25.0	---	---	---	29.0	25.5	27.0	14.0	12.5	13.5
10	26.0	25.5	25.5	---	---	---	30.5	20.5	26.5	15.5	13.0	14.0
11	25.5	24.0	25.0	---	---	---	22.0	17.5	20.0	16.0	14.5	15.0
12	26.5	25.0	26.0	---	---	---	19.0	17.5	18.0	18.5	14.5	16.0
13	27.0	26.0	26.5	---	---	---	19.0	18.0	18.5	19.5	14.5	17.0
14	27.0	25.5	26.5	---	---	---	21.5	17.5	18.5	---	---	---
15	25.5	24.5	25.0	23.5	15.0	19.0	19.0	17.0	18.0	---	---	---
16	25.5	24.0	25.0	15.5	14.5	15.0	19.5	13.0	16.5	---	---	---
17	25.5	24.5	25.0	16.0	15.0	15.5	14.5	13.0	14.0	---	---	---
18	25.5	23.5	25.0	19.5	16.0	17.5	14.5	11.0	14.0	---	---	---
19	---	---	---	17.5	16.0	17.0	14.0	11.0	12.5	---	---	---
20	---	---	---	21.0	13.5	15.0	14.5	13.0	14.0	---	---	---
21	---	---	---	23.0	20.5	22.0	15.0	13.0	14.0	---	---	---
22	---	---	---	24.0	19.5	21.0	16.0	14.0	15.0	---	---	---
23	---	---	---	21.5	20.0	21.0	16.0	14.5	15.5	---	---	---
24	---	---	---	21.5	20.0	20.5	16.0	14.5	15.5	---	---	---
25	---	---	---	22.0	20.0	21.0	15.0	12.5	13.0	---	---	---
26	---	---	---	22.0	20.5	21.5	13.5	11.5	12.5	---	---	---
27	---	---	---	20.0	15.5	17.5	14.5	13.0	14.0	---	---	---
28	---	---	---	15.5	14.5	15.0	14.5	13.0	14.0	---	---	---
29	---	---	---	18.0	15.0	16.0	15.0	13.0	14.0	---	---	---
30	---	---	---	25.5	19.0	23.0	15.5	13.5	14.5	---	---	---
31	20.0	19.0	19.5	---	---	---	16.0	15.0	15.5	18.0	16.5	17.0
MONTH	27.0	19.0	24.0	25.5	13.5	19.0	30.5	11.0	17.5	19.5	12.0	15.0

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	19.0	18.0	18.5	14.0	12.0	13.0	---	---	---	---	---	---
2	20.0	19.0	19.5	15.5	13.0	14.0	22.0	21.0	21.0	---	---	---
3	20.0	18.0	19.0	15.5	14.5	15.0	22.5	21.0	21.5	---	---	---
4	18.0	16.5	17.0	16.5	14.0	15.5	---	---	---	---	---	---
5	---	---	---	18.0	16.0	17.0	---	---	---	---	---	---
6	---	---	---	19.0	17.0	18.0	---	---	---	---	---	---
7	---	---	---	19.0	17.5	18.5	---	---	---	---	---	---
8	---	---	---	19.0	17.5	18.5	---	---	---	---	---	---
9	---	---	---	20.5	18.0	19.0	---	---	---	---	---	---
10	---	---	---	20.5	19.5	20.0	---	---	---	---	---	---
11	---	---	---	20.0	18.5	19.5	---	---	---	---	---	---
12	---	---	---	19.5	18.0	19.0	---	---	---	---	---	---
13	---	---	---	19.5	19.0	19.0	---	---	---	---	---	---
14	9.5	8.5	9.0	19.5	18.0	19.0	---	---	---	24.0	23.0	23.5
15	10.0	8.5	9.0	19.5	18.0	19.0	---	---	---	23.5	22.5	23.0
16	11.5	9.5	10.5	---	---	---	20.5	19.0	19.5	23.5	22.5	23.0
17	12.5	10.5	11.0	---	---	---	21.0	18.5	20.0	23.0	21.0	22.0
18	12.0	10.5	11.0	---	---	---	22.5	19.5	20.5	---	---	---
19	14.0	11.0	12.0	---	---	---	---	---	---	---	---	---
20	14.0	12.0	13.0	---	---	---	---	---	---	---	---	---
21	12.0	11.0	11.5	---	---	---	---	---	---	---	---	---
22	12.0	11.0	11.5	---	---	---	---	---	---	23.5	22.5	23.0
23	12.5	11.0	11.5	---	---	---	---	---	---	24.0	22.5	23.0
24	12.5	11.0	11.5	---	---	---	---	---	---	23.5	23.0	23.5
25	13.0	11.0	11.5	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	13.5	12.5	13.0	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	20.0	8.5	13.0	20.5	12.0	17.5	22.5	18.5	20.5	24.0	21.0	23.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	27.5	27.0	27.0	---	---	---	27.5	25.5	26.5
2	---	---	---	27.0	26.5	27.0	---	---	---	25.5	24.0	24.5
3	---	---	---	27.5	27.0	27.0	---	---	---	26.5	24.5	25.5
4	---	---	---	28.0	27.0	27.5	---	---	---	28.0	26.0	27.0
5	---	---	---	28.5	27.0	28.0	---	---	---	28.0	27.0	27.5
6	26.0	25.0	25.5	---	---	---	---	---	---	27.0	26.0	26.5
7	27.0	26.0	26.0	---	---	---	---	---	---	26.5	25.0	26.0
8	---	---	---	---	---	---	---	---	---	27.0	25.0	26.0
9	---	---	---	---	---	---	---	---	---	27.5	26.5	27.0
10	---	---	---	---	---	---	---	---	---	27.5	26.5	27.0
11	---	---	---	---	---	---	---	---	---	27.0	26.0	26.5
12	---	---	---	---	---	---	---	---	---	27.0	25.5	26.5
13	---	---	---	---	---	---	---	---	---	27.0	26.0	26.5
14	---	---	---	---	---	---	---	---	---	27.5	26.5	27.0
15	---	---	---	---	---	---	---	---	---	28.5	26.5	27.5
16	---	---	---	---	---	---	---	---	---	28.5	27.0	28.0
17	---	---	---	---	---	---	---	---	---	29.0	28.0	28.5
18	27.0	25.5	26.0	---	---	---	---	---	---	29.0	28.0	28.5
19	27.0	26.0	26.5	---	---	---	---	---	---	29.5	28.5	29.0
20	27.0	26.0	26.5	---	---	---	---	---	---	29.0	28.0	29.0
21	27.5	26.5	27.0	---	---	---	---	---	---	29.0	28.0	28.5
22	27.5	26.5	27.0	---	---	---	---	---	---	29.0	28.0	28.5
23	27.5	26.5	27.0	---	---	---	---	---	---	29.0	28.0	28.5
24	27.5	27.0	27.0	---	---	---	---	---	---	29.0	28.5	29.0
25	27.5	26.5	27.0	---	---	---	---	---	---	29.0	28.0	28.5
26	27.5	27.0	27.5	---	---	---	---	---	---	29.0	28.0	28.5
27	27.5	27.0	27.5	---	---	---	30.5	30.0	30.0	29.0	28.0	28.5
28	28.0	27.0	27.5	---	---	---	30.0	28.5	29.0	29.0	27.5	28.5
29	28.0	27.0	27.5	---	---	---	28.5	27.5	28.0	28.5	27.5	28.0
30	27.5	27.0	27.5	---	---	---	28.5	27.0	27.5	28.5	27.5	28.0
31	---	---	---	---	---	---	28.0	27.0	27.5	---	---	---
MONTH	28.0	25.0	27.0	28.5	26.5	27.5	30.5	27.0	28.5	29.5	24.0	27.5

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	6.0	4.2	5.6	6.8	6.6	6.7	---	---	---	6.9	6.7	6.8
2	6.2	5.4	5.8	6.8	6.5	6.6	---	---	---	6.9	6.5	6.7
3	5.7	4.7	5.5	6.6	6.4	6.6	---	---	---	6.7	6.3	6.5
4	5.5	4.9	5.3	6.5	6.2	6.3	---	---	---	6.7	6.2	6.5
5	5.5	5.2	5.3	---	---	---	---	---	---	7.4	6.7	7.0
6	5.3	5.1	5.2	---	---	---	---	---	---	7.0	6.5	6.8
7	5.1	4.6	4.9	---	---	---	---	---	---	6.7	6.2	6.4
8	4.9	4.5	4.7	---	---	---	---	---	---	7.8	6.7	7.3
9	4.5	4.1	4.3	---	---	---	---	---	---	7.7	7.3	7.5
10	4.4	3.8	4.2	---	---	---	---	---	---	7.4	6.5	7.0
11	4.1	3.4	3.8	---	---	---	---	---	---	6.5	6.2	6.3
12	4.5	3.8	4.1	---	---	---	---	---	---	6.3	2.4	4.7
13	4.5	3.9	4.2	---	---	---	---	---	---	9.3	3.4	7.8
14	5.0	3.5	4.2	---	---	---	---	---	---	---	---	---
15	5.0	4.4	4.6	---	---	---	---	---	---	---	---	---
16	5.0	4.4	4.6	7.7	6.6	7.3	---	---	---	---	---	---
17	5.3	4.6	5.0	7.0	6.5	6.8	7.8	7.4	7.6	---	---	---
18	6.1	1.5	4.7	6.6	5.1	6.2	9.8	7.3	7.8	---	---	---
19	---	---	---	6.4	6.1	6.2	9.8	7.8	8.6	---	---	---
20	---	---	---	---	---	6.0	7.8	7.6	7.7	---	---	---
21	---	---	---	---	---	---	7.8	7.5	7.6	---	---	---
22	---	---	---	---	---	---	7.5	6.7	7.1	---	---	---
23	---	---	---	---	---	---	7.1	6.6	6.8	---	---	---
24	---	---	---	---	---	---	7.2	6.6	6.9	---	---	---
25	---	---	---	---	---	---	7.7	7.0	7.4	---	---	---
26	---	---	---	---	---	---	7.7	7.5	7.7	---	---	---
27	---	---	---	7.4	5.6	6.9	7.5	6.9	7.3	---	---	---
28	---	---	---	7.2	6.7	7.0	7.2	6.9	7.0	---	---	---
29	---	---	---	7.1	5.9	6.8	7.2	6.9	7.0	---	---	---
30	---	---	---	---	---	---	7.1	6.8	6.9	---	---	---
31	7.2	6.6	6.9	---	---	---	6.8	6.4	6.6	6.1	5.4	5.9
MONTH	7.2	1.5	4.9	7.7	5.1	6.6	9.8	6.4	7.3	9.3	2.4	6.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.7	5.1	5.5	9.7	9.1	9.4	---	---	---	---	---	---
2	5.3	4.6	5.0	9.3	8.7	9.0	5.5	5.0	5.2	---	---	---
3	6.0	3.2	4.8	8.9	8.4	8.7	5.4	4.6	5.1	---	---	---
4	---	---	---	8.7	7.6	8.3	---	---	---	---	---	---
5	---	---	---	7.7	7.0	7.3	---	---	---	---	---	---
6	---	---	---	7.1	6.3	6.8	---	---	---	---	---	---
7	---	---	---	6.6	6.3	6.5	---	---	---	---	---	---
8	---	---	---	6.7	6.3	6.5	---	---	---	---	---	---
9	---	---	---	6.8	6.4	6.6	---	---	---	---	---	---
10	---	---	---	6.4	6.1	6.3	---	---	---	---	---	---
11	---	---	---	6.8	5.9	6.3	---	---	---	---	---	---
12	---	---	---	6.2	5.3	5.9	---	---	---	8.7	7.2	7.9
13	11.7	11.6	11.6	6.2	5.8	5.9	---	---	---	---	---	---
14	11.7	11.5	11.6	6.5	5.9	6.1	---	---	---	---	---	---
15	11.6	11.5	11.6	6.5	5.7	6.1	---	---	---	---	---	---
16	11.5	11.1	11.3	---	---	---	7.7	5.9	6.8	---	---	---
17	11.2	10.4	10.9	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	6.3	5.6	6.0
22	---	---	---	---	---	---	---	---	---	7.0	6.4	6.6
23	---	---	---	---	---	---	---	---	---	7.4	6.7	6.9
24	---	---	---	---	---	---	---	---	---	7.4	6.8	7.0
25	---	---	---	---	---	---	---	---	---	7.6	5.5	6.9
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	10.1	9.6	9.8	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	8.1	---	---	---	---	---	---	---
MONTH	11.7	3.2	9.1	9.7	5.3	7.1	7.7	4.6	5.7	8.7	5.5	6.9

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---				---	---	---	5.6	4.4	5.0
2	---	---	---				---	---	---	5.7	4.6	5.2
3	---	---	---				---	---	---	5.9	5.4	5.6
4	---	---	---				---	---	---	6.2	5.2	5.6
5	3.8	3.2	3.6				---	---	---	6.2	5.0	5.7
6	3.8	3.6	3.7				---	---	---	6.4	4.9	5.8
7	3.8	3.6	3.7				---	---	---	6.3	5.8	6.0
8	---	---	---				---	---	---	6.4	5.8	6.1
9	---	---	---				---	---	---	6.5	5.6	6.2
10	---	---	---				---	---	---	7.1	6.5	6.8
11	---	---	---				---	---	---	6.8	6.6	6.7
12	---	---	---				---	---	---	6.9	6.5	6.8
13	---	---	---				---	---	---	7.1	6.9	7.0
14	---	---	---				---	---	---	7.0	6.5	6.7
15	---	---	---				---	---	---	6.5	6.0	6.3
16	---	---	---				---	---	---	6.2	5.5	5.9
17	---	---	---				---	---	---	5.8	5.3	5.5
18	5.7	5.1	5.5				---	---	---	5.6	5.0	5.3
19	---	---	---				---	---	---	5.6	4.8	5.1
20	---	---	---				---	---	---	5.1	4.7	4.9
21	---	---	---				---	---	---	5.5	4.2	4.9
22	---	---	---				---	---	---	5.3	4.5	4.9
23	---	---	---				---	---	---	4.5	4.0	4.3
24	---	---	---				---	---	---	4.5	3.8	4.1
25	---	---	---				---	---	---	4.8	4.1	4.5
26	---	---	---				---	---	---	4.7	4.1	4.4
27	---	---	---				4.8	3.7	4.1	4.6	4.2	4.4
28	---	---	---				4.9	4.4	4.7	5.3	4.0	4.7
29	---	---	---				5.0	4.3	4.6	4.4	2.6	3.7
30	---	---	---				5.1	3.8	4.6	4.4	3.8	4.1
31	---	---	---				5.4	4.2	4.8	---	---	---
MONTH	5.7	3.2	4.1				5.4	3.7	4.6	7.1	2.6	5.4

08057445 PRAIRIE CREEK AT U.S. HIGHWAY 175, DALLAS, TX

LOCATION.--Lat 32°42'17", long 96°40'11", Dallas County, Hydrologic Unit 12030105, *on left bank at downstream side of the downstream access road bridge on U.S. Highway 175*, 3.4 mi upstream from mouth, and 9.0 mi southeast of Dallas City Hall.

DRAINAGE AREA.--9.03 mi².

PERIOD OF RECORD.--October 1975 to September 1980, April 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is 390.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: May 24 to June 10. Records good except for period of estimated daily discharges, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--7 years (water years 1976-80, 1985-86), 6.73 ft³/s (4,880 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,060 ft³/s Oct. 20, 1984 (gage height, 25.12 ft); from rating curve extended above 1,900 ft³/s on basis of velocity-area study; no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 27	0615	*1,730	*21.78	No other peak greater than base discharge.			

Minimum daily discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.81	5.1	.59	1.5	.50	.43	42	152	.01	.00	.00
2	.00	.72	3.3	.58	2.2	.52	.40	6.4	6.5	.32	.00	33
3	.00	.55	2.9	.58	122	.54	1.6	2.0	3.5	.99	.00	2.6
4	.00	.54	2.6	.57	13	.64	31	1.2	2.0	.57	.00	.14
5	.00	.56	2.1	.56	127	1.6	11	1.0	11	.19	.00	.02
6	.00	.70	1.9	.56	44	1.2	1.2	2.0	2.3	.10	.00	1.1
7	.00	.62	2.4	.55	4.1	1.7	.33	1.2	14	.10	.00	19
8	.00	.42	2.3	.55	6.8	1.6	.41	5.5	2.0	.12	.00	2.8
9	.00	.49	4.5	.56	7.5	1.6	.55	24	1.6	.10	.00	.21
10	.00	.49	258	.55	4.7	2.1	.75	36	1.4	.07	2.7	.02
11	.00	3.3	82	.54	1.7	2.7	.69	4.4	9.3	.04	5.2	.01
12	.00	1.5	12	.53	1.1	5.1	71	1.8	2.8	.02	9.6	.00
13	.00	1.4	3.1	.53	.89	.97	2.0	1.1	1.3	.00	.59	.00
14	37	1.8	2.0	.52	.66	.70	1.4	.85	.85	.00	.04	.00
15	2.1	28	1.8	.51	.52	.53	1.1	.71	.60	.00	.00	.00
16	.03	4.0	.95	.56	.63	.64	.43	.59	56	.00	.00	.00
17	.00	2.6	.92	.52	.61	.61	14	260	11	.00	.00	.01
18	96	4.0	.85	.51	.60	7.2	1.7	16	2.2	.00	.00	.08
19	190	15	.85	.52	.58	2.8	70	4.5	.94	.00	.00	.03
20	4.7	3.6	.78	.50	.54	.90	11	2.4	.68	.00	.00	.00
21	1.3	.70	.72	.53	.54	.85	1.5	1.6	.52	5.1	.00	.00
22	.68	.49	.72	.41	1.3	.79	.90	1.3	.32	15	.00	.00
23	.60	.40	.65	.36	.89	.75	.85	1.2	.17	1.0	.00	1.1
24	.58	.36	.65	.53	.80	.70	.80	1.9	.10	.19	.00	.06
25	.56	1.3	.66	.59	.75	.70	.75	2.0	.06	.02	.00	.00
26	.54	.99	.65	.33	.70	.65	.70	1.6	.03	.00	.00	.00
27	.52	255	.64	.38	.60	.60	.65	1.8	.04	.00	.00	.00
28	.50	9.2	.63	.47	.50	.55	.63	1.5	.04	.00	.00	.83
29	104	3.6	.62	.47	---	.53	.60	1.4	.02	.00	.00	2.5
30	9.8	2.7	.60	.74	---	.50	22	1.2	.02	.00	.00	1.6
31	2.5	---	.60	.99	---	.45	---	141	---	.00	.00	---
TOTAL	451.42	345.04	397.49	16.69	346.71	41.22	250.37	569.15	283.29	23.94	18.13	65.11
MEAN	14.6	11.5	12.8	.54	12.4	1.33	8.35	18.4	9.44	.77	.58	2.17
MAX	190	255	258	.99	127	7.2	71	260	152	15	9.6	33
MIN	.00	.36	.60	.33	.50	.45	.33	.59	.02	.00	.00	.00
AC-FT	895	686	788	33	688	82	497	1130	562	47	36	129

CAL YR 1985 TOTAL 3247.79 MEAN 8.90 MAX 308 MIN .00 AC-FT 6440
WTR YR 1986 TOTAL 2809.36 MEAN 7.70 MAX 260 MIN .00 AC-FT 5570

08058900 EAST FORK TRINITY RIVER AT MCKINNEY, TX

LOCATION.--Lat 33°14'38", long 96°36'31", Collin County, Hydrologic Unit 12030106, at downstream side of highway embankment near left end of main channel bridge on State Highways 5 and 121, 750 ft downstream from Honey Creek, 1.2 mi upstream from Southern Pacific Railway Co. bridge, 1.7 mi upstream from Clemons Creek, 3.3 mi north of McKinney 26.1 mi upstream from Lavon Dam, and 86.5 mi upstream from mouth.

DRAINAGE AREA.--164 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorder. Datum of gage is 528.74 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: May 21 to June 11 and July 2-7. Records good. At end of year, flow from 89.1 mi² above this station was affected at times by discharge from the flood-detention pools of 49 floodwater-retarding structures with a combined detention capacity of 26,080 acre-ft. A nonrecording rain gage and gage-height telemeter at station.

AVERAGE DISCHARGE.--11 years regulated, 90.7 ft³/s (65,710 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,800 ft³/s May 13, 1982 (gage height, 22.17 ft, from graph); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1913, about 28 ft in April 1942 (discharge not determined), from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,400 ft³/s Feb. 3 at 1545 hours (gage height, 19.57 ft); minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	26	83	20	9.2	35	18	30	2600	15	.92	.12
2	.00	19	96	19	9.2	33	18	31	2000	16	.51	.30
3	.00	16	66	18	4540	31	23	20	800	15	.48	.30
4	.00	14	57	17	2370	29	135	16	500	13	.48	.30
5	.00	13	52	16	1150	28	127	15	4000	12	.58	55
6	.00	13	48	15	1770	26	52	14	1010	11	.75	99
7	.00	13	44	15	958	25	38	14	900	9.2	1.3	10
8	.00	13	41	15	859	25	30	13	800	8.1	.87	13
9	.00	12	39	14	735	25	25	67	1060	7.7	.47	11
10	.00	12	38	14	590	28	21	2310	700	7.3	.23	8.5
11	.00	11	51	13	428	50	19	520	560	6.8	.27	7.1
12	.00	11	69	13	350	89	20	309	304	6.5	.24	6.4
13	.00	9.9	57	13	288	82	20	198	258	6.1	.20	5.4
14	.00	9.9	48	13	241	63	18	147	217	5.8	.13	4.7
15	.00	115	42	13	193	51	15	125	212	5.5	.08	4.0
16	.02	77	41	13	172	41	14	110	235	5.1	.09	3.1
17	.09	36	38	13	146	35	14	812	272	4.9	.08	2.7
18	.26	51	36	13	130	50	15	1210	174	4.6	.10	2.7
19	151	57	34	13	117	102	86	511	153	4.3	.13	2.7
20	102	44	33	13	110	56	429	280	114	4.4	.10	1.4
21	42	33	31	13	99	40	106	190	94	4.1	.05	.80
22	29	27	30	12	92	36	70	140	79	4.1	.10	.80
23	23	24	29	11	85	33	53	80	68	4.8	.09	.60
24	20	20	28	11	76	29	43	70	66	4.4	.08	.30
25	18	20	27	11	70	26	35	200	57	4.0	.03	.30
26	17	98	25	9.9	64	24	29	150	45	3.2	.01	.20
27	15	146	22	9.6	47	22	25	82	35	2.8	.01	.20
28	14	80	22	9.4	37	22	24	55	28	2.4	.01	.20
29	73	61	22	9.2	---	21	20	31	22	1.9	.03	.20
30	140	56	21	9.4	---	20	18	22	18	1.5	.03	48
31	44	---	20	9.2	---	18	---	80	---	1.4	.03	---
TOTAL	688.37	1137.8	1290	407.7	15735.4	1195	1560	7852	17381	202.9	8.48	289.32
MEAN	22.2	37.9	41.6	13.2	562	38.5	52.0	253	579	6.55	.27	9.64
MAX	151	146	96	20	4540	102	429	2310	4000	16	1.3	99
MIN	.00	9.9	20	9.2	9.2	18	14	13	18	1.4	.01	.12
AC-FT	1370	2260	2560	809	31210	2370	3090	15570	34480	402	17	574

CAL YR 1985 TOTAL 32895.93 MEAN 90.1 MAX 1420 MIN .00 AC-FT 65250
WTR YR 1986 TOTAL 47747.97 MEAN 131 MAX 4540 MIN .00 AC-FT 94710

08058900 EAST FORK TRINITY RIVER AT MCKINNEY, TX--Continued

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1985 to August 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 18...	1630	71	400	7.90	17.0	40	82	7.5	79	2.3	--	--
JAN 06...	1400	16	490	8.20	4.5	5	1.4	15.3	--	1.2	220	9
FEB 06...	1800	1800	268	7.70	11.5	45	260	--	--	2.8	120	17
MAR 31...	1400	20	570	7.30	20.0	10	6.8	8.8	99	1.1	260	22
MAY 10...	1705	837	292	7.60	21.0	40	330	6.4	73	3.6	130	17
JUL 07...	1445	7.7	640	7.90	26.0	10	3.5	6.9	86	1.2	290	40
AUG 25...	1300	0.03	320	7.40	26.0	--	6.0	2.6	33	1.0	120	17

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
NOV 18...	--	--	--	--	--	116	--	--	--	--	--
JAN 06...	82	2.7	20	0.6	2.5	207	52	11	0.4	1.6	300
FEB 06...	45	1.4	6.6	0.3	2.9	101	24	4.3	0.3	8.7	150
MAR 31...	100	3.2	20	0.6	2.6	241	66	9.3	0.5	3.5	350
MAY 10...	49	1.5	7.3	0.3	3.7	112	26	4.4	0.3	7.8	170
JUL 07...	110	3.3	23	0.6	3.1	248	59	10	0.4	11	370
AUG 25...	42	2.7	11	0.5	4.0	99	41	5.1	0.5	5.6	170

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DISSOLVED (UG/L AS AS)
NOV 18...	126	20	2.16	0.04	2.20	0.06	0.84	0.9	0.11	9.2	--
JAN 06...	2	<1	0.79	0.01	0.80	0.03	0.37	0.4	0.02	--	--
FEB 06...	504	70	1.54	0.16	1.70	0.12	1.1	1.2	0.13	15	2
MAR 31...	31	9	--	<0.01	0.20	0.08	0.42	0.5	0.04	6.2	--
MAY 10...	860	86	1.84	0.06	1.90	0.10	1.9	2.0	0.56	21	--
JUL 07...	15	8	0.39	0.01	0.40	0.09	0.31	0.4	0.04	4.1	2
AUG 25...	6	--	0.53	0.17	0.70	0.02	0.48	0.5	0.01	5.2	--

DATE	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
NOV 18...	--	--	--	--	--	--	--	--	--	--	--
JAN 06...	--	--	--	--	--	--	--	--	--	--	--
FEB 06...	37	<1	<10	2	50	1	2	0.1	1	<1	10
MAR 31...	--	--	--	--	--	--	--	--	--	--	--
MAY 10...	--	--	--	--	--	--	--	--	--	--	--
JUL 07...	94	<1	<10	1	9	<5	80	<0.1	<1	<1	4
AUG 25...	--	--	--	--	--	--	--	--	--	--	--

08059300 PILOT GROVE CREEK NEAR BLUE RIDGE, TX

LOCATION.--Lat 33°15'13", long 96°24'44", Collin County, Hydrologic Unit 12030106, on county road bridge, over center of channel at downstream side of bridge, 3.1 mi downstream from Desert Creek, and 3.2 mi south of Blue Ridge.

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1985 to July 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
JAN 07...	1330	15	550	8.10	5.0	3	2.4	13.0	--	1.2	260	0
FEB 06...	1520	189	300	7.90	8.0	40	170	10.0	--	2.2	130	11
APR 01...	1200	17	530	7.80	18.0	10	3.0	7.6	82	1.1	260	5
MAY 10...	1600	803	246	7.60	21.0	100	250	6.2	71	2.9	110	6
JUL 08...	1300	11	510	7.70	26.0	10	2.0	6.9	86	0.8	240	2

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
JAN 07...	100	2.8	15	0.4	1.5	266	22	11	0.3	3.6	320
FEB 06...	50	1.8	6.0	0.2	2.9	121	16	4.5	0.2	9.3	160
APR 01...	98	2.6	16	0.5	1.6	250	18	9.5	0.4	5.3	300
MAY 10...	41	1.4	5.6	0.2	4.2	102	13	3.6	0.4	8.9	140
JUL 08...	92	2.5	12	0.4	1.5	238	20	8.0	0.4	11	290

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)
JAN 07...	5	1	0.69	0.01	0.70	0.03	0.47	0.5	0.04	1.7	1
FEB 06...	224	40	1.54	0.16	1.70	0.07	1.0	1.1	0.09	10	2
APR 01...	16	7	--	<0.01	0.30	0.05	0.55	0.6	0.04	8.3	--
MAY 10...	522	98	2.42	0.08	2.50	0.05	1.5	1.5	0.28	16	--
JUL 08...	27	6	--	<0.01	0.70	0.05	0.25	0.3	0.04	3.1	<1

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 07...	79	<1	<10	<1	16	<1	47	0.1	<1	<1	10
FEB 06...	73	22	<10	4	59	1	25	0.1	<1	<1	31
APR 01...	--	--	--	--	--	--	--	--	--	--	--
MAY 10...	--	--	--	--	--	--	--	--	--	--	--
JUL 08...	82	<1	<10	1	5	<5	9	<0.1	<1	<1	11

08059400 SISTER GROVE CREEK NEAR BLUE RIDGE, TX

LOCATION.--Lat 33°17'40", long 96°28'58", Collin County, Hydrologic Unit 12030106, on left bank at upstream side of highway embankment of bridge on Farm Road 545, 3.5 mi upstream from Hatler Branch, 4.8 mi west of Blue Ridge, 7.4 mi upstream from Stiff Creek, 14.7 mi upstream from mouth, and 24.7 mi upstream from Lavon Dam.

DRAINAGE AREA.--83.1 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1975 to current year.

GAGE.--Water-stage recorder. Datum of gage is 536.29 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. At end of year, flow from 47.4 mi² above this station is affected at times by discharge from the flood-detention pools of 34 floodwater-retarding structures with a combined detention capacity of 12,710 acre-ft. Several observations of water temperature were made during the year. Gage height telemeter at station.

AVERAGE DISCHARGE.--11 years regulated, 47.8 ft³/s (34,300 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft³/s May 13, 1982 (gage height, 22.5 ft, from floodmarks); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1900, 20.7 ft probably in July 1913, from information furnished by State Department of Highways and Public Transportation. The probable date is from published records for discontinued station 08059500 located 9.7 mi downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,100 ft³/s Feb. 3 at 1600 hours (gage height, 17.38 ft); minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	22	87	24	3.6	37	32	52	874	22	.10	.00
2	.00	16	83	23	5.0	39	33	61	773	20	.08	.00
3	.00	9.7	72	22	1340	40	36	49	419	31	.16	.00
4	.00	6.7	68	22	990	36	145	42	325	33	1.3	.00
5	.00	5.3	63	20	597	35	140	39	1540	20	1.0	18
6	.00	4.6	58	19	828	35	90	33	648	14	.41	39
7	.00	4.1	56	19	495	33	75	26	481	11	.17	7.7
8	.00	3.7	53	18	473	33	66	25	416	12	.03	4.2
9	.00	4.1	50	16	366	34	58	29	739	10	.00	2.4
10	.00	3.5	48	16	282	46	52	239	448	8.3	.00	2.6
11	.00	2.0	65	17	210	52	51	119	380	6.8	.02	.81
12	.00	.83	72	17	181	78	51	79	268	5.6	.02	1.0
13	.00	.63	63	15	144	59	50	60	196	4.6	.00	.94
14	.00	.70	54	13	122	49	49	48	156	4.0	.00	.00
15	.01	98	51	9.7	101	43	44	43	155	3.4	.00	.31
16	.00	103	49	8.9	84	40	41	36	418	2.8	.00	.85
17	.04	79	47	9.1	77	38	41	257	560	2.5	.00	1.0
18	.10	143	45	9.8	70	48	44	442	299	2.0	.00	2.8
19	19	149	41	11	65	67	61	245	199	1.6	.00	12
20	77	101	40	10	60	45	277	139	149	1.2	.00	14
21	25	82	38	8.7	52	39	108	99	128	1.0	.00	12
22	18	69	38	7.4	48	37	76	84	116	1.6	.00	8.7
23	15	62	37	6.1	48	36	62	70	109	1.4	.00	3.6
24	13	57	36	5.3	49	38	55	67	116	1.0	.00	1.7
25	12	54	32	5.2	47	40	50	89	106	.71	.00	.41
26	6.6	97	28	4.8	48	39	47	76	97	.56	.00	.01
27	5.9	180	27	4.1	46	37	45	65	87	.43	.00	.00
28	12	117	26	3.7	40	37	44	55	71	.29	.00	.01
29	51	95	26	3.7	---	36	40	48	49	.28	.00	.00
30	105	84	25	3.7	---	34	40	42	36	.21	.00	.00
31	51	---	25	3.4	---	33	---	55	---	.16	.00	---
TOTAL	410.65	1653.86	1503	375.6	6891.6	1293	2003	2813	10358	223.44	3.29	134.04
MEAN	13.2	55.1	48.5	12.1	246	41.7	66.8	90.7	345	7.21	.11	4.47
MAX	105	180	87	24	1340	78	277	442	1540	33	1.3	39
MIN	.00	.63	25	3.4	3.6	33	32	25	36	.16	.00	.00
AC-FT	815	3280	2980	745	13670	2560	3970	5580	20550	443	6.5	266

CAL YR 1985 TOTAL 22847.76 MEAN 62.6 MAX 1180 MIN .00 AC-FT 45320
WTR YR 1986 TOTAL 27662.48 MEAN 75.8 MAX 1540 MIN .00 AC-FT 54870

08059400 SISTER GROVE CREEK NEAR BLUE RIDGE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: November 1985 to July 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV												
18...	1630	--	400	--	--	--	--	--	--	--	170	50
19...	1030	151	320	8.10	17.5	45	56	8.6	91	1.7	140	8
JAN												
07...	1000	19	506	7.90	5.0	5	1.9	13.4	--	1.0	240	0
FEB												
06...	1320	984	268	7.70	11.5	40	260	--	--	3.0	120	4
APR												
01...	0945	11	520	7.70	18.0	10	2.4	7.1	76	1.1	240	0
MAY												
10...	1310	2.8	316	7.70	20.5	30	190	7.0	79	4.2	150	6
JUL												
08...	1000	12	530	7.90	25.0	5	1.0	6.0	74	1.3	250	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
NOV												
18...	63	2.1	17	0.6	3.8	116	65	7.9	0.4	9.7	240	--
19...	55	1.7	7.3	0.3	3.4	136	22	4.9	0.3	8.6	180	2
JAN												
07...	93	2.5	12	0.4	1.8	246	19	7.5	0.4	2.0	290	3
FEB												
06...	47	1.5	5.1	0.2	2.9	120	12	3.5	0.2	7.9	150	390
APR												
01...	92	2.7	13	0.4	1.8	249	17	7.0	0.4	4.6	290	18
MAY												
10...	57	1.6	8.5	0.3	2.8	143	14	4.9	0.3	6.7	180	640
JUL												
08...	95	2.5	12	0.3	1.8	249	18	6.5	0.5	11	300	31

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
NOV											
18...	--	--	--	--	--	--	--	--	--	2	58
19...	<1	0.86	0.04	0.90	0.08	0.72	0.8	0.07	5.3	2	50
JAN											
07...	2	0.79	0.01	0.80	0.03	0.37	0.4	0.02	24	--	--
FEB											
06...	76	1.12	0.18	1.30	0.13	1.2	1.3	0.14	16	1	39
APR											
01...	9	--	<0.01	0.30	0.07	0.53	0.6	0.03	4.7	--	--
MAY											
10...	168	0.86	0.04	0.90	0.11	1.4	1.5	0.40	17	--	--
JUL											
08...	8	0.69	0.01	0.70	0.07	0.33	0.4	0.06	3.5	2	83

DATE	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV											
18...	<1	<10	4	33	1	14	<0.1	1	<1	<1	7
19...	<1	<10	1	45	<1	5	<0.1	1	<1	<1	18
JAN											
07...	--	--	--	--	--	--	--	--	--	--	--
FEB											
06...	<1	<10	2	32	1	3	0.1	--	<1	<1	10
APR											
01...	--	--	--	--	--	--	--	--	--	--	--
MAY											
10...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	<1	<10	1	10	<5	26	<0.1	--	<1	<1	7

8059600 WILSON CREEK AT MCKINNEY, TX

LOCATION.--Lat 33°10'25", long 96°37'17", Collin County, Hydrologic Unit 12030106, on State Highway 5 & 121 bridge, over center of channel at downstream side of downstream bridge on State Highways 5 and 121, 0.5 mi upstream from Southern Pacific Railroad Co. bridge, 1.6 mi south of City Hall in McKinney, and 5.0 mi upstream from Sloan Creek.

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1985 to May 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
FEB 06...	1320	299	338	7.80	9.0	30	180	10.2	--	2.2	150	36
MAR 31...	1045	7.3	600	7.90	18.0	10	12	7.1	77	1.3	260	64
MAY 10...	1845	433	271	7.60	20.5	30	350	7.1	80	2.6	120	27

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
FEB 06...	58	1.8	7.2	0.3	2.9	116	32	8.2	0.3	8.3	190
MAR 31...	98	3.2	16	0.5	2.6	194	69	11	0.5	5.2	320
MAY 10...	47	1.5	5.3	0.2	2.8	97	27	3.8	0.3	7.3	150

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DISSOLVED (UG/L AS AS)
FEB 06...	276	60	3.08	0.42	3.50	0.13	0.97	1.1	0.06	--	3
MAR 31...	32	11	1.08	0.02	1.10	0.09	0.71	0.8	0.04	5.8	--
MAY 10...	700	156	1.36	0.04	1.40	0.10	1.6	1.7	0.41	18	--

DATE	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
FEB 06...	58	<1	<10	4	21	1	13	<0.1	1	<1	7
MAR 31...	--	--	--	--	--	--	--	--	--	--	--
MAY 10...	--	--	--	--	--	--	--	--	--	--	--

08060500 LAVON LAKE NEAR LAVON, TX

LOCATION.--Lat 33°01'54", long 96°28'56", Collin County, Hydrologic Unit 12030106, in right abutment of spillway in dam on East Fork Trinity River, 3,850 ft upstream from St. Louis Southwestern Railway Lines bridge, 4,000 ft upstream from bridge on State Highway 78, 2.9 mi west of Lavon, and 55.9 mi upstream from mouth.

DRAINAGE AREA.--770 mi².

PERIOD OF RECORD.--September 1953 to current year. Prior to October 1970, published as Lavon Reservoir.
Water-quality records.--Chemical analyses: October 1969 to September 1974, October 1975 to September 1982.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Jan. 20, 1954, nonrecording gage in the approach channel at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 18,860 ft long, including a 568-foot gated spillway with twelve 40.0- by 28.0-foot tainter gates. The original dam was 9,499 ft long, but conservation capacity was increased to present size in December 1975. Deliberate impoundment began Sept. 14, 1953, and the dam was completed in October 1953. Low-flow outlets consist of five 36-inch-diameter controlled sluice gates. Capacity Table No. 9, now in use, is based on Design Memo, 1970 Conditions. Lake was designed for flood control and water conservation. Water for municipal supply can be released down to elevation 453.0 ft. Flow is affected at times by discharge from the flood-detention pools of 149 floodwater-retarding structures with a combined detention capacity of 69,170 acre-ft. These structures control runoff from 242 mi² in the East Fork Trinity River, Pilot Grove, and Sister Grove Creek drainage basins. Gage-height telemeter at station. Figures given herein represent total contents. Data regarding dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	514.0	-
Design flood	509.0	921,200
Top of tainter gates	503.5	748,200
Top of conservation pool	492.0	456,500
Crest of spillway (sill of tainter gates)	475.5	178,300
Lowest gated outlet (invert)	453.0	12,700

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 734,000 acre-ft May 26, 1982 (elevation, 503.02 ft); minimum since lake first filled in 1957, 80,150 acre-ft Apr. 17, 1976 (elevation, 465.96 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 589,900 acre-ft June 11 at 2400 hours (elevation, 497.71 ft); minimum daily, 373,500 acre-ft Oct. 14 at 0800 hours (elevation, 487.90 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

487.0	357,500	493.0	478,200	499.0	622,800
490.0	415,200	496.0	547,400		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	380600	379700	407100	414400	405700	456400	450900	468700	505200	542600	450700	423300
2	380000	379100	406900	414200	405700	456800	449800	468300	520400	541000	449600	424300
3	379300	378700	406700	414000	409100	456600	450700	467800	528600	537900	449400	423700
4	378500	378300	407500	413600	424100	456400	453800	466700	533800	533300	448700	423500
5	377800	377400	407300	413200	436200	456200	479200	466500	550600	529100	447700	424900
6	376400	377600	407300	413000	447300	455800	482500	465700	565500	524400	446200	425300
7	375900	376600	407500	413200	456400	455500	482900	464100	574900	520200	445200	425500
8	375500	375700	407500	412600	460300	454900	484500	462200	579800	515800	444100	424500
9	375100	375900	407100	412200	463900	454500	482900	468500	583400	511200	443100	423700
10	375300	376400	413200	412200	466300	455300	481200	484500	587600	505900	442400	422900
11	375500	376200	415600	411800	467200	455300	479400	489800	589900	501100	441600	422900
12	375300	375700	417000	411600	467400	456000	481200	491400	589400	496400	440800	422100
13	374700	375900	417200	411400	466500	456400	480500	491400	587600	492300	439700	421300
14	375900	376000	416600	411200	467000	456200	479800	488900	585100	487400	438500	420400
15	375500	379500	416600	410800	465200	456200	477900	486500	582600	482700	437600	419800
16	374900	380600	416800	410600	465200	455800	475200	483400	586900	478100	436600	418800
17	375300	382200	416800	410600	464600	455800	473700	498800	588600	473700	436000	418400
18	377000	385000	416800	410600	463300	456200	472200	509800	589400	470600	435000	417200
19	380000	390000	416600	410400	462200	455500	479200	515300	587900	468900	433900	416800
20	380200	390600	416400	410000	462400	455300	482100	517200	585600	467200	433100	416000
21	380200	390600	416200	410000	459200	454500	482900	515800	582400	465200	432100	415400
22	380000	390800	416000	409800	460300	453600	481800	511400	579800	463900	430600	414600
23	379700	391000	416400	409300	459600	453800	479800	509600	576100	462200	429600	414000
24	379700	391400	416400	408900	459000	453200	478100	508400	573900	460300	428800	413000
25	379500	391200	415400	408900	458300	452800	475900	509100	569900	458800	428000	412200
26	379100	395900	415000	408700	457900	452800	473900	509300	565700	457900	426700	411600
27	378500	401200	415200	407100	457900	452800	473300	507500	561000	456800	426700	411000
28	380000	404100	415000	407100	457300	452300	471100	503600	556200	455300	425300	410200
29	381000	404900	415000	407100	---	451700	468700	500000	550800	454100	424100	409300
30	380400	406900	414800	406700	---	451300	468300	495900	547000	452800	422900	408500
31	379900	---	414800	406300	---	450900	---	494300	---	451700	421900	---
MAX	381000	406900	417200	414400	467400	456800	484500	517200	589900	542600	450700	425500
MIN	374700	375700	406700	406300	405700	450900	449800	462200	505200	451700	421900	408500
(†)	488.18	489.57	489.97	489.54	492.02	491.72	492.53	493.71	495.97	491.76	490.32	489.65
(‡)	-1700	+27000	+7900	-8500	+51000	-6400	+17400	+26000	+52700	-95300	-29800	-13400

CAL YR 1985 MAX 550600 MIN 374700 (‡) -39500
WTR YR 1986 MAX 589900 MIN 374700 (‡) +26800

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

08061000 EAST FORK TRINITY RIVER NEAR LAVON, TX

LOCATION.--Lat 33°01'25", long 96°28'31", Collin County, Hydrologic Unit 12030106, on left bank at downstream side of St. Louis Southwestern Railway Lines bridge, 150 ft upstream from bridge on State Highway 78, 3,550 ft downstream from Lavon Dam, 2.5 mi west of Lavon, and 54.9 mi upstream from mouth.

DRAINAGE AREA.--773 mi².

PERIOD OF RECORD.--October 1953 to current year.
Water-quality record.--Chemical and biochemical analyses: October 1980 to September 1982.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder, concrete control, and crest-stage gage. Datum of gage is 429.58 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1969, at site 150 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 1-9 and May 24 to July 10. Records fair. Flow is regulated by Lavon Lake (station 08060500).

AVERAGE DISCHARGE.--33 years, 338 ft³/s (244,900 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,000 ft³/s May 26, 27, 1957, from records of released flow from Lavon Lake furnished by U.S. Army Corps of Engineers; maximum gage height, 17.34 ft May 26, 1957; no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1894, 22.3 ft in 1913 and in April 1942, from information by St. Louis Southwestern Railway Lines and local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,000 ft³/s, May 22 at 2330 (gage height, 12.90 ft); minimum daily, 0.1 ft³/s Oct. 1-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.56	.94	2.1	.82	8.4	.56	372	1800	1590	3.7	1.3
2	.10	.78	.63	2.2	.82	7.6	.41	8.8	720	1590	2.1	1.5
3	.10	.82	1.1	2.1	3.0	8.0	.28	7.8	8.0	1580	1.2	.91
4	.10	.82	1.1	1.8	2.7	7.8	10	6.1	5.0	1580	2.0	.35
5	.10	.82	.46	3.0	7.9	9.9	124	4.4	4.0	1580	2.0	1.2
6	.10	.57	.35	.99	12	9.3	4.9	322	4.0	1580	1.4	1.1
7	.20	.56	.30	.82	3.4	9.1	2.0	888	3.0	1570	1.1	.55
8	.20	.72	.34	.85	3.2	7.2	1.7	888	3.0	1570	.81	.34
9	.20	.82	.36	1.4	2.5	4.9	335	903	2.0	1570	.97	.36
10	.22	1.0	36	1.7	169	4.6	771	418	2.0	1570	1.2	.36
11	.68	3.5	14	2.0	401	4.6	974	6.9	500	1560	1.8	.36
12	.99	2.3	3.8	2.7	405	4.1	542	5.6	850	1540	4.4	.36
13	.69	1.5	3.5	2.1	619	3.4	5.0	524	850	1530	4.3	.36
14	.86	1.1	3.7	1.4	824	2.4	491	1260	1150	1540	2.6	.36
15	1.2	12	3.6	.88	823	2.6	940	1520	1200	1530	1.5	.36
16	1.2	2.9	4.3	.71	829	2.5	933	1510	1200	1520	1.5	.27
17	1.9	8.1	5.2	.49	832	2.3	935	679	1200	1520	1.5	.16
18	4.1	6.1	6.5	.69	835	2.2	932	8.4	590	964	1.5	.16
19	14	3.1	9.3	.91	834	2.0	683	4.2	490	546	1.5	.16
20	2.9	.36	8.4	.76	662	1.5	9.2	3.5	850	559	1.5	.16
21	2.5	.36	6.7	1.4	457	1.5	4.6	1050	1200	565	7.8	.16
22	2.5	.36	6.7	1.1	460	2.4	523	1990	1200	558	6.9	.16
23	2.5	.36	7.1	.82	454	2.9	888	1980	1200	536	6.8	.16
24	2.2	.36	7.4	.98	434	2.8	888	1530	1430	580	6.5	.14
25	1.5	1.1	5.9	1.1	423	2.5	885	8.2	1600	233	6.6	.11
26	1.5	2.6	3.4	1.3	204	2.3	885	4.1	1600	11	3.7	.12
27	1.5	17	1.6	1.7	5.1	1.9	891	4.0	1600	6.9	.36	.31
28	1.7	1.1	2.5	1.5	9.2	1.5	887	860	1600	5.1	.48	.28
29	14	.60	2.3	1.2	---	1.2	890	1800	1590	5.1	.56	.16
30	2.9	.45	1.9	.81	---	.82	886	1800	1590	5.1	.56	.16
31	1.1	---	2.0	.82	---	.73	---	1800	---	4.7	.56	---
TOTAL	63.84	72.72	151.38	42.33	9715.64	124.95	15321.65	22166.0	26041.0	31098.9	79.40	12.44
MEAN	2.06	2.42	4.88	1.37	347	4.03	511	715	868	1003	2.56	.41
MAX	14	17	36	3.0	835	9.9	974	1990	1800	1590	7.8	1.5
MIN	.10	.36	.30	.49	.82	.73	.28	3.5	2.0	4.7	.36	.11
AC-FT	127	144	300	84	19270	248	30390	43970	51650	61680	157	25

CAL YR 1985 TOTAL 131307.10 MEAN 360 MAX 2000 MIN .00 AC-FT 260400
WTR YR 1986 TOTAL 104890.25 MEAN 287 MAX 1990 MIN .10 AC-FT 208000

08061540 ROWLETT CREEK NEAR SACHSE, TX

LOCATION.--Lat 32°57'35", long 96°36'51", Dallas County, Hydrologic Unit 12030106, on left bank at downstream side of bridge on State Highway 78, 150 ft downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 250 ft downstream from Spring Creek, and 1.5 mi southwest of Sachse.

DRAINAGE AREA.--120 mi².

PERIOD OF RECORD.--March 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 450.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. No known diversions above station. The North Texas Municipal Water District returns sewage effluent into a tributary above this station. Rain gage and gage-height telemeter at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years (water years 1969-86), 97.3 ft³/s (70,490 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,500 ft³/s Mar. 27, 1977 (gage height, 29.31 ft); no flow Aug. 24 to Sept. 2, 1969.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1942, 35.4 ft in 1942, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,500 ft³/s (revised) and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Apr. 5	0700	5,540	22.42	May 17	1700	5,370	22.19
Apr. 12	0600	4,990	21.62	June 1	0045	7,230	24.33
Apr. 19	2115	6,240	23.25	June 1	2315	4,780	21.30
May 10	0215	*9,680	*25.58				

Minimum daily discharge, 22 ft³/s Nov. 4-6 and 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	47	205	52	44	57	39	427	3640	54	25	226
2	26	38	98	53	45	61	37	97	1400	69	24	325
3	24	33	90	51	393	60	36	76	547	282	75	78
4	22	32	87	51	156	58	283	69	290	79	151	46
5	22	28	83	50	502	59	2420	68	2190	58	37	194
6	22	27	80	51	555	60	165	67	583	52	29	96
7	23	25	78	49	147	60	99	71	365	47	28	63
8	22	24	78	47	152	61	84	87	261	47	26	50
9	23	23	75	44	138	64	70	646	338	42	27	43
10	32	24	289	43	128	76	66	3280	143	43	27	38
11	53	43	247	46	106	75	63	245	362	39	30	36
12	30	24	121	45	99	77	1340	160	139	38	35	34
13	25	23	97	43	96	73	154	135	115	38	27	34
14	45	33	85	42	94	70	109	119	103	37	26	33
15	35	868	85	41	85	71	82	113	475	34	26	34
16	28	113	79	41	88	68	72	106	645	35	27	31
17	29	134	75	43	84	70	146	2820	282	33	25	31
18	138	433	73	43	78	111	101	992	130	31	25	30
19	683	185	70	46	77	43	1300	252	153	32	25	31
20	86	88	68	44	74	40	907	172	287	32	24	31
21	48	73	67	45	69	40	176	142	93	36	25	32
22	38	64	65	44	67	39	129	124	80	46	25	34
23	33	58	63	44	68	39	108	114	100	33	25	32
24	29	53	63	45	68	39	96	114	259	32	28	30
25	27	58	57	44	63	38	87	171	116	30	28	31
26	25	168	57	44	62	38	82	61	74	29	26	31
27	24	1280	57	42	60	41	162	60	72	27	25	31
28	24	154	56	41	58	39	93	54	64	28	25	47
29	479	111	54	42	---	41	73	48	60	25	24	76
30	95	114	54	42	---	39	109	91	57	26	24	36
31	55	---	55	41	---	29	---	895	---	24	24	---
TOTAL	2274	4378	2811	1399	3656	1736	8688	11876	13423	1458	998	1864
MEAN	73.4	146	90.7	45.1	131	56.0	290	383	447	47.0	32.2	62.1
MAX	683	1280	289	53	555	111	2420	3280	3640	282	151	325
MIN	22	23	54	41	44	29	36	48	57	24	24	30
AC-FT	4510	8680	5580	2770	7250	3440	17230	23560	26620	2890	1980	3700

CAL YR 1985 TOTAL 45345 MEAN 124 MAX 3330 MIN 17 AC-FT 89940
WTR YR 1986 TOTAL 54561 MEAN 149 MAX 3640 MIN 22 AC-FT 108200

08061550 LAKE RAY HUBBARD NEAR FORNEY, TX

LOCATION.--Lat 32°48'00", long 96°29'45", Kaufman County, Hydrologic Unit 12030106, near right end of spillway in Forney Dam on East Fork Trinity River, 0.5 mi upstream from Duck Creek, 1.8 mi upstream from bridge on Interstate Highway 20, 3.8 mi northwest of Forney, 24 mi downstream from Lavon Dam, and 31.8 mi upstream from mouth.

DRAINAGE AREA.--1,071 mi².

PERIOD OF RECORD.--January 1968 to current year.
Water-quality records.--Chemical analyses: October 1969 to September 1979.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a rolled earthfill dam 12,500 ft long, including a 664-foot gated spillway with fourteen 40- by 28-foot tainter gates. Closure was made in September 1967, but the gates were not closed until Mar. 22, 1978. Low-flow releases are made through three 4.5- by 6.75-foot sluiceways. The lake was built by the city of Dallas for municipal water supply. Flow is affected at times by discharge from the flood-detention pools of 14 floodwater-retarding structures with a combined detention capacity of 12,530 acre-ft. These structures control runoff from 44.5 mi² above this station and below Lavon Lake station (08060500). Gage-height telemeter at station. Area and capacity tables are based on surveys made in 1953 and 1959. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	450.0	-
Design flood......................................	440.5	611,500
Top of tainter gates..............................	437.5	536,700
Top of conservation pool..........................	435.5	489,900
Crest of spillway (sill of tainter gates).........	409.5	83,130
Lowest gated outlet (invert)......................	388.0	80

COOPERATION.--The area and capacity tables were provided by Forrest and Cotton, Consulting Engineers for the city of Dallas.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 513,900 acre-ft May 13, 1982 (elevation, 436.54 ft); minimum since first appreciable filling following closure of gates on Mar. 22, 1970, 326,600 acre-ft Sept. 29, 30, 1978, (elevation, 427.48 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 508,100 acre-ft Apr. 5 at 1100 hours (elevation, 436.29 ft); minimum, 425,500 acre-ft Oct. 7 (elevation, 432.55 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

432.0	414,000	434.0	456,500	436.0	501,400
433.0	435,000	435.0	478,600	437.0	524,700

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	430700	442600	460400	474800	467500	487200	483400	493600	501400	489000	487000	472800
2	430300	441800	458900	475300	467500	487700	481800	489900	494500	491100	486700	474600
3	429700	441600	458700	475000	474200	487700	484900	488300	488100	491300	487400	474600
4	429700	441100	459800	475500	475300	487400	494900	487200	487400	491100	487400	474200
5	429500	440100	459100	473500	481300	487700	503500	486300	495900	490400	486300	475500
6	428600	441800	458700	473900	484000	487200	493800	488100	493600	490600	485800	475500
7	426500	440100	459300	474800	486700	486500	491700	489900	493300	490400	485400	476200
8	426900	438600	459300	473700	486100	485200	492200	491100	490800	490200	484900	474400
9	427600	438400	459300	473000	486700	484300	489700	496100	487700	489700	483800	473900
10	428400	440300	470400	473000	487000	487400	489500	498600	489900	488800	484000	472800
11	427800	440300	472600	472600	487000	487900	489000	490600	492400	488100	484500	473300
12	428200	439900	474200	472400	487400	487900	496100	489500	491100	487200	483800	472600
13	428000	440300	473300	471500	487400	488600	489900	488800	489700	487700	482900	471900
14	430500	440100	472400	471700	489900	487900	489900	489900	489000	488300	482000	471000
15	429200	444600	473300	471000	489900	487900	489500	489200	489000	489500	482000	471000
16	429000	444600	473500	471000	491100	487200	489700	488800	496100	490600	480900	470600
17	429700	445400	473700	471300	491100	485400	488800	494500	492400	491700	480900	469900
18	433300	445700	474200	471500	491100	489000	490600	493600	489200	492200	480200	469500
19	439400	451900	473900	471300	490600	487700	497900	489900	489700	491500	479500	469300
20	439400	448500	473700	470400	493100	487000	494500	490200	489700	491300	478900	468600
21	439400	448200	474200	471900	489900	485600	490400	489700	489000	492900	478400	468600
22	439200	447800	474800	470800	488300	484700	488800	488800	488800	493600	477500	467700
23	439200	448900	475300	469700	488100	485400	488100	491500	488600	493100	476600	467500
24	439600	448900	476400	470100	488800	484300	488600	491500	489200	492700	476200	466400
25	439200	448700	473900	470800	487900	484300	488600	488800	489700	492000	475700	466200
26	439200	455000	474200	471500	488100	484700	487900	488100	489700	491500	474600	465300
27	439200	458200	475000	467900	489200	484500	490800	488300	489000	490400	475300	465300
28	442200	457800	474600	467900	487700	484000	490800	488800	489200	489700	474200	464600
29	445000	458200	474600	468600	---	483600	490700	489700	489000	489000	472800	463300
30	444600	461500	474800	467700	---	483100	493300	489700	488800	488300	472100	463300
31	442400	---	475700	467700	---	482200	---	494500	---	488100	471700	---
MAX	445000	461500	476400	475500	493100	489000	503500	498600	501400	493600	487400	476200
MIN	426500	438400	458700	467700	467500	482200	481800	486300	487400	487200	471700	463300
(†)	433.35	434.23	434.87	434.51	435.40	435.16	435.65	435.7	435.45	435.42	434.69	434.31
(‡)	+10800	+19100	+14200	-8000	+20000	-5500	+11100	+1200	-5700	-700	-16400	-8400

CAL YR 1985 MAX 504800 MIN 426500 (‡) -15400
WTR YR 1986 MAX 503500 MIN 426500 (‡) +31700

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

08061700 DUCK CREEK NEAR GARLAND, TX

LOCATION.--Lat 32°49'58", long 96°35'43", Dallas County, Hydrologic Unit 12030106, on right bank in the median area between the dual bridges on Belt Line Road, 6.0 mi southeast of Garland, and 7.7 mi upstream from mouth.

DRAINAGE AREA.--31.6 mi².

PERIOD OF RECORD.--January 1958 to current year.
Water-quality records.--Sediment records: October 1976 to September 1982.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 430.02 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1962, at datum 4.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow is slightly regulated by several small on-channel dams. There are several small diversions above station including the irrigation of a golf course. Low flows are sustained by effluents from the city of Garland. Recording rain gage at station.

AVERAGE DISCHARGE.--28 years, 30.3 ft³/s (13.02 in/yr), 21,950 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft³/s July 27, 1962 (gage height, 20.80 ft, present datum); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1895, 21.5 ft (present datum) June 13, 1949, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 27	0215	4,420	17.47	May 17	0945	5,360	17.87
Dec. 10	1515	2,540	16.16	May 31	2345	2,580	16.21
Apr. 5	0115	5,440	17.90	June 1	2230	2,750	16.39
Apr. 12	0445	*6,940	*18.37	June 3	2300	2,890	16.53
Apr. 19	1800	5,980	18.09				

Minimum daily discharge, 0.64 ft³/s Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	14	61	5.0	4.0	7.1	2.5	212	663	5.3	2.6	13
2	3.4	16	10	5.0	3.0	5.2	2.7	18	194	38	2.1	212
3	2.6	9.2	8.6	4.8	465	4.0	3.0	7.5	14	164	360	29
4	2.1	8.7	8.0	4.5	43	4.3	348	5.1	10	26	179	6.6
5	1.3	7.3	7.5	4.3	387	4.5	1030	5.4	189	6.9	7.9	63
6	1.1	8.5	6.5	4.2	171	4.8	15	6.3	13	5.0	5.9	26
7	1.6	8.0	6.1	4.7	32	4.1	12	4.5	339	5.1	5.0	10
8	1.8	6.5	6.5	4.3	22	4.1	9.6	20	17	6.2	5.7	6.0
9	1.9	6.9	6.4	4.2	32	4.3	8.5	105	9.7	4.6	4.9	4.3
10	2.6	6.7	693	4.2	18	64	8.2	349	7.4	3.4	17	3.5
11	17	83	179	5.1	12	18	7.9	12	200	3.5	12	3.0
12	5.2	14	42	4.6	10	35	959	9.3	9.7	3.5	22	3.2
13	2.5	8.8	13	3.9	9.9	13	22	7.5	10	3.6	7.2	2.2
14	148	10	9.5	3.5	9.7	12	18	5.1	9.5	3.3	5.3	2.6
15	13	388	8.7	3.1	11	13	14	6.2	9.7	2.7	5.5	2.6
16	5.9	20	7.9	3.1	10	13	9.4	5.8	115	2.6	4.7	2.5
17	8.3	124	7.2	3.6	11	12	75	1500	27	2.8	4.5	2.0
18	223	164	6.8	4.0	9.7	73	13	58	10	3.0	3.5	2.4
19	771	51	6.8	4.0	8.3	18	919	14	75	4.6	2.8	2.2
20	26	17	6.1	4.0	7.9	14	64	8.0	14	2.8	2.0	2.0
21	15	14	6.0	4.2	6.8	12	11	7.8	9.5	4.4	2.6	2.7
22	12	12	5.6	4.0	6.2	13	6.9	5.0	10	11	2.7	2.3
23	11	11	6.1	4.0	6.2	14	5.6	6.2	11	3.7	2.5	3.8
24	8.4	11	5.6	4.0	6.0	12	5.2	8.9	25	2.2	2.7	2.5
25	8.1	18	5.5	3.8	5.6	8.7	5.3	77	7.7	2.8	4.5	2.4
26	8.0	56	4.8	3.3	5.5	3.4	3.6	7.9	6.5	2.2	3.7	2.8
27	7.3	820	4.7	3.3	7.6	2.6	89	6.0	6.3	2.4	2.3	2.3
28	7.7	18	5.0	3.5	7.9	2.5	11	6.4	5.1	2.3	2.5	2.1
29	401	9.5	5.0	3.8	---	2.2	6.2	4.2	4.5	2.1	4.5	9.0
30	41	15	5.4	3.3	---	2.2	45	4.5	4.5	2.8	3.0	2.1
31	16	---	5.1	4.1	---	2.7	---	334	---	2.3	4.2	---
TOTAL	1778.5	1956.1	1159.4	125.4	1328.3	402.7	3729.6	2826.6	2026.1	335.1	694.8	430.1
MEAN	57.4	65.2	37.4	4.05	47.4	13.0	124	91.2	67.5	10.8	22.4	14.3
MAX	771	820	693	5.1	465	73	1030	1500	663	164	360	212
MIN	1.1	6.5	4.7	3.1	3.0	2.2	2.5	4.2	4.5	2.1	2.0	2.0
CFSM	1.82	2.06	1.18	.13	1.50	.41	3.92	2.89	2.14	.34	.71	.45
IN.	2.09	2.30	1.36	.15	1.56	.47	4.39	3.33	2.39	.39	.82	.51
AC-FT	3530	3880	2300	249	2630	799	7400	5610	4020	665	1380	853
(†)	5.18	3.13	2.80	.03	3.12	.39	7.22	4.64	2.28	1.81	3.41	1.39

CAL YR 1985 TOTAL 17292.11 MEAN 47.4 MAX 1600 MIN .33 CFSM 1.50 IN. 20.36 AC-FT 34300 (†) 35.47
WTR YR 1986 TOTAL 16792.7 MEAN 46.0 MAX 1500 MIN 1.1 CFSM 1.46 IN. 19.77 AC-FT 33310 (†) 35.40

(†) Rainfall, in inches.

08061750 EAST FORK TRINITY RIVER NEAR FORNEY, TX

LOCATION.--Lat 32°46'27", long 96°30'12", Kaufman County, Hydrologic Unit 12030106, on right bank 25 ft downstream from bridge on Interstate Highway 20, 0.2 mi downstream from Duck Creek, 1.9 mi downstream from Lake Ray Hubbard Dam, 2.5 mi upstream from Texas and Pacific Railroad Co. bridge, 2.6 mi northwest of Forney, and 30.8 mi upstream from mouth.

DRAINAGE AREA.--1,118 mi², of which 1,071 mi² is above Lake Ray Hubbard.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1973 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 374.86 ft (revised, datum lowered 3.00 ft effective Oct. 1, 1984) above National Geodetic Vertical Datum of 1929 (from State Department of Highways and Public Transportation bridge plans). Prior to Aug. 26, 1975, recording gage at 3 ft higher datum located at site 126 ft upstream and 868 ft to left. From Aug. 26, 1975, to May 12, 1977, recording gage at 3 ft higher datum located at site 105 ft downstream.

REMARKS.--Estimated daily discharges: Oct. 1-6. Records good except for estimated daily discharges, which are fair. Flow is regulated by Lake Ray Hubbard (station 08061550). Low flow is sustained by sewage effluent discharged from the city of Garland into Duck Creek, that enters the East Fork Trinity River 0.2 mi upstream from this station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years (water years 1974-86), 565 ft³/s (409,300 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,400 ft³/s Mar. 27, 1977 (gage height, 16.34 ft); minimum daily, 13 ft³/s Oct. 18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,800 ft³/s May 18 at 0100 hours (gage height, 16.37 ft); minimum daily, 26 ft³/s Aug. 21, 31 and Sept. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	56	124	40	37	36	36	2120	5820	2400	37	26
2	45	63	64	41	36	34	36	1830	8200	2490	42	266
3	40	54	58	40	410	42	36	907	5690	2530	57	149
4	38	51	60	41	359	41	231	51	1290	2740	579	51
5	36	48	62	40	153	32	5500	43	1240	2450	77	89
6	34	46	61	39	725	29	7170	47	2280	2440	68	132
7	35	46	62	41	113	44	1970	151	2850	2440	49	57
8	30	39	53	40	125	47	1530	676	2600	2440	47	60
9	73	27	47	38	85	38	931	1040	2470	2430	45	48
10	51	40	267	38	107	75	667	5470	1300	2400	44	45
11	89	93	1130	38	67	53	976	5810	1430	2400	70	43
12	103	79	182	38	63	71	2730	1710	2570	2390	90	41
13	85	33	105	40	62	46	2190	476	2550	2400	54	34
14	159	37	67	39	223	43	2140	1230	2540	1750	46	34
15	236	369	63	46	439	39	1820	1520	2540	1070	44	38
16	73	156	59	38	585	41	751	1570	3130	1070	38	35
17	42	142	57	39	932	37	1050	5090	5340	1060	36	30
18	155	142	54	40	917	63	1010	10500	3780	801	35	28
19	847	231	52	36	928	59	1730	4820	2490	450	37	31
20	210	90	50	40	930	52	3820	168	2600	452	36	29
21	68	66	48	40	931	52	2890	1020	2480	461	26	27
22	59	60	48	38	700	41	1220	2480	2470	514	28	29
23	56	60	46	37	441	37	954	2470	2450	477	35	41
24	54	61	46	37	439	36	886	2840	2490	452	42	45
25	53	59	44	36	438	36	965	3000	2470	283	42	42
26	52	74	40	34	262	37	964	1470	2490	45	41	36
27	48	832	46	43	49	35	798	61	2470	40	31	28
28	35	133	43	36	43	37	649	829	2440	40	31	27
29	471	71	42	36	---	33	764	1770	2440	38	32	42
30	133	65	42	37	---	34	1130	2240	2440	38	29	38
31	78	---	43	36	---	35	---	2700	---	30	26	---
TOTAL	3573	3323	3165	1202	10599	1335	47544	66109	87350	41021	1894	1621
MEAN	115	111	102	38.8	379	43.1	1585	2133	2912	1323	61.1	54.0
MAX	847	832	1130	46	932	75	7170	10500	8200	2740	579	266
MIN	30	27	40	34	36	29	36	43	1240	30	26	26
AC-FT	7090	6590	6280	2380	21020	2650	94300	131100	173300	81370	3760	3220

CAL YR 1985 TOTAL 290334 MEAN 795 MAX 13600 MIN 27 AC-FT 575900
WTR YR 1986 TOTAL 268736 MEAN 736 MAX 10500 MIN 26 AC-FT 533000

08061750 EAST FORK TRINITY RIVER NEAR FORNEY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: November 1981 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1981 to current year.
WATER TEMPERATURES: October 1981 to current year.

INSTRUMENTATION.--Beginning August 1986, a four-parameter monitor records water temperature, DO, pH, and specific conductance continuously at this station.

REMARKS.--Interruptions in the record were due to malfunction of the instrument. Where maximum or minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request. The specific conductance and water temperature values for the period August 1 to September 30 were obtained from the monitor record.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,100 microsiemens Aug. 29, 1985; minimum daily, 192 microsiemens Aug. 4, 1986.
WATER TEMPERATURES: Maximum daily, 32.5°C Aug. 18, 1986; minimum daily, 4.0°C Jan. 16, Feb. 6, 1982.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,080 microsiemens Mar. 28; minimum daily, 192 microsiemens Aug. 4.
WATER TEMPERATURES: Maximum daily, 32.5°C Aug. 18; minimum daily, 9.0°C Feb. 22-24.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBFR 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 15...	0745	105	824	7.80	21.5	35	9.0	0.2	2	39	220	1
JAN 31...	0800	41	1000	7.90	15.0	35	8.0	0.6	6	24	260	23
APR 17...	1145	1020	340	7.80	16.0	10	9.8	9.6	98	1.7	120	0
JUN 18...	1300	2960	282	8.00	24.5	10	1.5	9.0	108	2.2	110	9
JUL 23...	1110	485	287	7.90	28.0	15	21	7.5	--	3.4	96	3
SEP 15...	0915	37	606	7.50	27.0	20	21	5.8	74	3.4	140	32

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
NOV 15...	81	3.2	62	2	4.5	215	51	98	1.4	7.6	440
JAN 31...	97	3.9	76	2	11	235	62	110	1.9	7.3	510
APR 17...	42	2.9	17	0.7	4.2	117	25	13	0.4	1	180
JUN 18...	38	2.7	14	0.6	4.0	97	24	9.9	0.4	1.9	150
JUL 23...	34	2.7	18	0.8	6.4	93	29	11	0.5	3.4	160
SEP 15...	52	3.1	59	2	9.9	111	55	57	1.2	9.9	310

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DISSOLVED (UG/L AS AS)
NOV 15...	10	8	--	0.01	<0.10	13.0	3.0	16	0.91	36	3
JAN 31...	30	18	--	0.01	<0.10	15.0	5.0	20	1.50	49	--
APR 17...	25	2	0.25	0.05	0.30	0.53	0.67	1.2	0.09	5.1	--
JUN 18...	8	8	0.26	0.04	0.30	0.17	0.63	0.8	0.15	5.1	--
JUL 23...	26	2	0.32	0.08	0.40	0.53	0.87	1.4	0.60	7.2	5
SEP 15...	12	6	7.11	0.59	7.70	1.10	2.2	3.3	7.60	14	--

08061750 EAST FORK TRINITY RIVER NEAR FORNEY, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 15...	38	<1	<10	3	82	1	55	0.1	<1	<1	18
JAN 31...	--	--	--	--	--	--	--	--	--	--	--
APR 17...	--	--	--	--	--	--	--	--	--	--	--
JUN 18...	--	--	--	--	--	--	--	--	--	--	--
JUL 23...	38	<1	<10	2	11	<5	9	<0.1	<1	<1	11
SEP 15...	--	--	--	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	3573	554	306	2950	43	415	44	428	170
NOV. 1985	3323	555	306	2750	43	383	45	399	170
DEC. 1985	3165	603	331	2820	50	424	47	402	180
JAN. 1986	1202	913	478	1550	100	336	59	190	230
FEB. 1986	10599	452	255	7300	28	787	39	1130	150
MAR. 1986	1335	832	441	1590	87	314	57	204	220
APR. 1986	47544	335	195	25100	12	1580	33	4210	120
MAY 1986	66109	333	194	34700	12	2210	33	5820	120
JUNE 1986	87350	298	175	41200	9.6	2270	30	7010	110
JULY 1986	41021	289	170	18800	8.8	975	29	3220	110
AUG. 1986	1894	543	304	1550	37	188	46	234	170
SEPT 1986	1621	703	382	1670	62	271	53	232	200
TOTAL	268736	**	**	142000	**	10200	**	23500	**
WTD.AVG.	736	337	196	**	14	**	32	**	120

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1			669			763			517			758
2			836			720			641			762
3			794			734			783			875
4			821			754			770			912
5			871			821			826			884
6			796			888			857			875
7			729			955			897			826
8			838			962			839			901
9			1040			985			795			902
10			889			835			666			973
11			1010			752			352			950
12			708			678			492			899
13			763			820			511			812
14			530			904			804			872
15			495			424			794			924
16			717			565			825			973
17			814			643			868			983
18			655			614			857			916
19			302			452			859			929
20			439			588			953			887
21			611			721			931			942
22			750			874			902			928
23			870			868			800			980
24			865			825			830			1000
25			923			790			846			995
26			895			804			859			901
27			857			765			879			863
28			845			455			821			936
29			345			683			815			1000
30			526			808			804			990
31			605						798			1010
MONTH			736			732			780			915

08061750 EAST FORK TRINITY RIVER NEAR FORNEY, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1			1000			866			889			309
2			1020			822			968			308
3			641			814			970			381
4			735			858			438			628
5			905			900			355			699
6			791			933			314			765
7			605			1040			322			627
8			610			919			350			354
9			672			833			352			330
10			756			801			407			308
11			752			703			336			311
12			842			647			280			396
13			845			771			319			630
14			615			882			322			339
15			396			833			317			328
16			378			781			476			325
17			327			758			340			322
18			323			585			324			314
19			338			568			340			310
20			336			812			308			678
21			343			908			334			450
22			394			903			332			320
23			371			832			352			324
24			370			815			369			315
25			384			917			354			323
26			390			985			352			475
27			957			1030			351			620
28			910			1080			352			478
29						953			351			385
30						915			341			309
31						911						307
MONTH			607			851			407			418

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1			294			293	712	620	655	726	675	700
2			224			292	672	581	630	694	504	566
3			360			288	635	346	591	856	629	744
4			475			291	498	192	371	984	866	936
5			580			288	622	506	570	---	947	950
6			365			284	654	629	646	---	959	980
7			309			278	677	629	656	---	---	800
8			300			279	675	652	661	---	---	700
9			307			277	692	669	679	---	---	650
10			308			276	701	679	689	---	---	599
11			320			284	683	501	566	592	570	585
12			297			282	496	424	450	614	590	600
13			300			279	602	445	532	652	612	635
14			303			275	615	511	568	682	604	647
15			301			306	604	529	575	669	598	632
16			304			290	658	525	637	678	617	656
17			281			284	655	640	649	712	665	690
18			283			291	650	572	621	705	656	681
19			287			306	666	643	649	692	640	669
20			278			303	665	645	654	697	642	677
21			289			310	703	656	680	776	668	728
22			287			316	---	---	670	694	621	658
23			276			313	---	---	670	699	624	668
24			278			309	---	---	660	693	658	677
25			263			314	---	---	660	690	655	674
26			277			656	---	---	650	704	639	676
27			273			693	---	---	650	679	637	663
28			293			673	669	628	642	655	616	639
29			290			674	678	635	660	614	587	606
30			286			680	698	650	677	585	570	578
31						702	732	668	701	---	---	---
MONTH			310			367	732	192	625	984	504	680

TRINITY RIVER BASIN

08061750 EAST FORK TRINITY RIVER NEAR FORNEY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1			20.0			19.0			14.0			15.0
2			21.0			20.0			12.0			15.0
3			22.0			20.0			13.0			15.0
4			23.0			---			15.0			17.0
5			24.0			19.0			16.0			14.0
6			23.0			---			16.0			---
7			23.0			20.0			17.0			14.0
8			23.0			20.0			17.0			14.0
9			24.0			---			17.0			13.0
10			24.0			24.0			20.0			14.0
11			24.0			21.0			12.0			10.0
12			25.0			19.0			11.0			15.0
13			26.0			22.0			13.0			15.0
14			26.0			22.0			11.0			15.0
15			22.0			---			14.0			16.0
16			23.0			---			---			16.0
17			24.0			19.0			14.0			10.0
18			24.0			19.0			15.0			16.0
19			22.0			20.0			13.0			---
20			22.0			16.0			14.0			17.0
21			22.0			18.0			---			16.0
22			22.0			18.0			16.0			10.0
23			23.0			20.0			16.0			16.0
24			23.0			20.0			10.0			16.0
25			24.0			20.0			---			16.0
26			---			22.0			10.0			15.0
27			23.0			16.0			16.0			18.0
28			---			---			14.0			12.0
29			16.0			---			15.0			17.0
30			20.0			17.0			14.0			16.0
31			17.0						16.0			16.0
MONTH			22.5			19.5			14.5			15.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1			---			---			23.0			21.0
2			---			---			21.0			21.0
3			---			---			20.0			22.0
4			---			---			20.0			23.0
5			---			---			24.0			22.0
6			---			---			14.0			---
7			---			---			---			19.0
8			14.0			---			---			21.0
9			11.0			---			---			21.0
10			11.0			---			18.0			21.0
11			11.0			18.0			18.0			24.0
12			11.0			17.0			17.0			24.0
13			11.0			20.0			18.0			24.0
14			13.0			20.0			18.0			22.0
15			14.0			19.0			18.0			21.0
16			14.0			19.0			21.0			22.0
17			14.0			19.0			20.0			21.0
18			14.0			18.0			18.0			22.0
19			14.0			15.0			20.0			21.0
20			14.0			15.0			19.0			---
21			13.0			18.0			18.0			---
22			9.0			18.0			19.0			22.0
23			9.0			21.0			19.0			24.0
24			9.0			18.0			20.0			23.0
25			10.0			18.0			20.0			23.0
26			---			19.0			20.0			---
27			---			21.0			20.0			---
28			---			20.0			19.0			23.0
29						22.0			19.0			---
30						23.0			19.0			23.0
31						22.0						24.0
MONTH			12.0			19.0			19.5			22.0

08061750 EAST FORK TRINITY RIVER NEAR FORNEY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1			23.0			26.0	32.0	29.5	31.0	26.0	26.0	26.0
2			23.0			27.0	32.0	29.0	30.0	26.0	24.0	24.5
3			---			26.0	30.5	26.0	29.0	27.5	24.5	26.0
4			23.0			26.0	27.0	24.5	26.0	28.5	27.0	27.5
5			24.0			26.0	29.0	27.0	28.0	28.0	25.0	27.0
6			---			26.0	29.5	28.0	28.5	26.0	25.0	25.5
7			24.0			27.0	30.0	28.0	29.0	27.0	26.0	26.5
8			25.0			27.0	29.5	28.0	29.0	26.5	25.0	25.5
9			24.0			27.0	30.5	28.0	29.0	28.0	26.0	27.0
10			25.0			26.0	29.5	26.5	28.5	28.5	26.5	27.5
11			25.0			26.0	29.0	27.0	28.0	28.5	26.5	27.5
12			25.0			26.0	28.0	26.0	27.5	29.0	26.0	27.5
13			26.0			27.0	29.5	28.0	28.5	29.5	26.0	27.5
14			25.0			27.0	30.0	27.5	28.5	28.5	26.5	27.0
15			25.0			27.0	30.0	28.0	29.0	29.0	27.0	28.0
16			25.0			28.0	30.0	28.0	29.0	29.0	27.0	28.0
17			26.0			28.0	31.0	28.0	29.5	29.0	27.0	28.0
18			26.0			26.0	32.5	29.0	30.5	29.0	27.0	28.0
19			26.0			28.0	31.5	29.0	30.0	29.0	27.0	28.0
20			26.0			28.0	30.5	28.5	29.5	29.0	26.5	27.5
21			26.0			---	30.5	29.0	29.5	28.5	26.0	27.5
22			26.0			27.0	29.0	28.0	28.5	28.5	26.0	27.5
23			27.0			26.0	---	---	---	28.5	25.5	27.5
24			27.0			---	---	---	---	28.5	26.0	27.5
25			27.0			27.0	---	---	---	28.0	26.5	27.0
26			27.0			26.0	---	---	---	28.5	25.5	27.0
27			27.0			26.0	---	---	---	28.5	26.5	27.5
28			27.0			29.0	28.5	27.0	27.5	28.5	27.0	27.5
29			---			29.0	28.0	26.0	27.0	27.5	26.5	27.0
30			23.0			---	27.5	25.5	27.0	27.5	26.5	27.0
31						---	27.0	25.5	26.5	---	---	---
MONTH			25.5			27.0	32.5	24.5	28.5	29.5	24.0	27.0

08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX

LOCATION.--Lat 32°38'19", long 96°29'17", Kaufman County, Hydrologic Unit 12030106, on right bank 15 ft downstream from downstream eastbound bridge on U.S. Highway 175, 0.7 mi downstream from Mustang Creek, 1.8 mi northwest of Crandall, 4.0 mi upstream from Buffalo Creek, and 11.0 mi upstream from mouth.

DRAINAGE AREA.--1,256 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1949 to current year.
Water-quality records.--Chemical and biochemical anlyses: October 1967 to September 1981. Pesticide analyses: October 1976 to September 1981.

REVISED RECORDS.--WSP 1922: Drainage area. WDR TX-75-1: 1974.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 338.69 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 21, 1983, at datum 5.00 ft higher.

REMARKS.--Estimated daily discharges: May 20 to Sept. 30. Records fair except those for estimated daily discharges, which are poor. Flow largely regulated by Lavon Lake (station 08060500) since September 1953 and Lake Ray Hubbard (station 08061550) since Mar. 22, 1970. The city of Forney discharges sewage effluent into a triburary below Lake Ray Hubbard and above this station. The North Texas Municipal Water District discharges sewage effluent into tributaries above this station from the Mesquite and Chandler's Landing sewage treatment plants. Flow is affected at times by discharge from the flood-detention pools of 20 floodwater-retarding structures with a combined detention capacity of 11,760 acre-ft. These structures control runoff from 39.2 mi². Gage-height telemeter at station.

AVERAGE DISCHARGE.--4 years (water years 1950-53) prior to regulation by Lavon Lake, 652 ft³/s (472,400 acre-ft/yr); 33 years (water years 1954-86) regulated, 600 ft³/s (434,700 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,000 ft³/s May 28, 1957 (gage height, 22.81 ft); no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,990 ft³/s May 19 at 0500 hours (gage height, 17.53 ft, from floodmark in well, from rating curve extended above 4,000 ft³/s); minimum daily, 35 ft³/s Nov. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147	112	134	70	66	69	46	1560	2780	2510	80	75
2	102	93	132	74	69	50	56	2080	6000	2500	85	125
3	80	89	83	70	558	51	51	1800	8200	2570	90	300
4	76	78	84	66	1750	64	267	394	5700	2600	105	140
5	75	73	84	63	641	53	964	133	1350	2810	540	100
6	72	72	113	62	1810	37	2870	116	1250	2520	220	130
7	72	67	86	89	970	38	5160	123	2380	2510	120	180
8	76	65	87	67	509	71	2930	469	2980	2510	100	105
9	58	56	75	58	350	63	1780	1220	2630	2500	95	110
10	92	35	282	56	358	55	827	1690	2500	2490	95	100
11	76	74	1500	58	262	121	1100	4030	1350	2460	95	95
12	96	139	644	64	198	105	1540	6100	1450	2460	500	95
13	76	88	442	67	181	103	2440	3490	2620	2450	220	90
14	65	40	351	70	180	71	2440	1640	2620	2460	105	85
15	211	136	200	67	419	61	1900	1990	2620	1810	95	85
16	115	350	155	77	465	60	1460	2080	2580	1130	95	90
17	82	147	133	63	833	61	951	2470	3300	1130	90	85
18	132	202	124	62	958	67	1100	5120	5400	1130	85	80
19	672	248	111	66	958	135	1150	6610	3800	860	85	80
20	577	178	97	63	945	73	2410	4300	2530	510	90	80
21	230	111	86	70	940	84	3540	2000	2780	505	85	80
22	160	93	82	67	913	74	3180	1400	2530	560	75	75
23	97	86	81	60	525	47	1490	2550	2530	530	80	80
24	88	87	80	64	452	45	997	2530	2520	490	85	90
25	80	91	77	63	449	42	938	3100	2520	360	90	95
26	90	92	61	59	439	46	975	3100	2510	270	90	90
27	87	637	74	61	181	45	953	1500	2530	95	90	85
28	81	640	82	79	85	41	733	100	2520	90	80	80
29	313	190	68	65	---	46	657	1250	2510	90	80	75
30	442	116	66	64	---	40	918	1800	2510	90	80	90
31	215	---	70	65	---	42	---	2280	---	85	80	---
TOTAL	4835	4485	5744	2049	16464	1960	45823	69025	89500	45085	3905	3150
MEAN	156	150	185	66.1	588	63.2	1527	2227	2983	1454	126	105
MAX	672	640	1500	89	1810	135	5160	6610	8200	2810	540	300
MIN	58	35	61	56	66	37	46	100	1250	85	75	75
AC-FT	9590	8900	11390	4060	32660	3890	90890	136900	177500	89430	7750	6250

CAL YR 1985 TOTAL 329058 MEAN 902 MAX 15700 MIN 35 AC-FT 652700
WTR YR 1986 TOTAL 292025 MEAN 800 MAX 8200 MIN 35 AC-FT 579200

08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1967 to September 1981, June to September 1986.
Pesticide analyses: October 1976 to September 1981.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to September 1981, May to September 1986.
pH: March to September 1977, May to September 1986.
WATER TEMPERATURES: October 1967 to September 1981, May to September 1986.
DISSOLVED OXYGEN: March to September 1977, May to September 1986.

INSTRUMENTATION.--March to September 1977 a four-parameter water-quality monitor for water temperature, DO, pH, and specific conductance was in operation at this station. Beginning May 1986, a four-parameter water-quality monitor records water temperature, DO, pH, and specific conductance continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,010 microsiemens Nov. 23, 1968; minimum, 193 microsiemens June 16, 1981.
pH: Maximum, 8.5 units July 14, 1977; minimum, 7.0 units on several days during April and May 1977.
WATER TEMPERATURE: Maximum, 34.0°C June 26, June 1, Aug. 16, 17, 1980; minimum, 1.0°C Jan. 3, 1979.
DISSOLVED OXYGEN: Maximum, 14.5 mg/L July 8, 1977; minimum, .0 mg/L on many days during 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
JUN 19...	0945	3800	308	7.70	26.5	5.7	71	2.6	120	6
JUL 23...	0900	530	338	7.70	28.0	5.5	--	5.0	110	3
SEP 10...	1045	100	544	7.50	26.0	4.2	52	7.9	140	21

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
JUN 19...	42	2.6	14	0.6	4.3	110	24	9.8	0.4
JUL 23...	38	2.6	21	0.9	4.7	103	32	15	0.5
SEP 10...	50	3.3	45	2	8.3	117	51	47	0.8

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
JUN 19...	2.9	170	0.36	0.04	0.40	0.08	0.82	0.9	0.20
JUL 23...	4.3	180	0.80	0.20	1.00	0.47	0.63	1.1	0.70
SEP 10...	9.4	280	5.22	0.88	6.10	1.90	1.7	3.6	3.80

08062500 TRINITY RIVER NEAR ROSSER, TX

LOCATION.--Lat 32°25'35", long 96°27'46", Ellis County, Hydrologic Unit 12030105, on right bank at downstream side of right pier of bridge on State Highway 34, 2.5 mi south of Rosser, 8.5 mi downstream from East Fork Trinity River, and at mile 451.4.

DRAINAGE AREA.--8,147 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1924 to September 1925, October 1938 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1922: Drainage area. WDR TX-77-1: 1942(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 302.65 ft above National Geodetic Vertical Datum of 1929. July 25, 1924, to Sept. 30, 1925, nonrecording gage at abandoned lock and dam No. 7, 1.7 mi upstream from present site at datum 6.94 ft higher.

REMARKS.--Estimated daily discharges: Feb. 23 to Mar. 6. Records good. At times, flow is affected by storage in 15 upstream reservoirs having combined capacity of 3,572,000 acre-ft, of which 1,138,000 acre-ft is for flood control. A levee system constructed in 1916 extends several miles upstream and downstream from station. The cities of Fort Worth with Dallas and several small cities divert considerable water for municipal use, of which about 60 percent is returned as sewage effluents that sustains low flows at thmay be site. Flow may be effected at times by discharge from the flood-detention pools of 38 floodwater-retarding structures with a combined detention capacity of 22,680 acre-ft. These structures control runoff from 76.7 mi^2. Two separate gage-height telemeters at station.

AVERAGE DISCHARGE.--49 years (water years 1925, 1939-86), 2,628 ft^3/s (1,904,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 150,000 ft^3/s Apr. 23, 1942, following numerous breaks in levee systems along both banks; maximum gage height, 41.55 ft Apr. 22, 1942, just prior to levee breaks; minimum discahrge, 32 ft^3/s for several days in 1924-25.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1908 reached a stage of about 33 ft (present site and datum), from information by U.S. Army Corps of Engineers (discharge believed to have been about the same as that of Apr. 22, 1942.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23,000 ft^3/s Dec. 11 at 1400 hours (gage height, 29.21 ft); minimum daily, 563 ft^3/s Sept. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3150	1650	1700	892	803	2350	827	3890	7520	7620	711	563
2	1230	1210	1860	856	809	1800	844	6130	12500	7440	686	2050
3	877	1090	1420	845	2380	1630	847	4890	17300	7730	674	6270
4	747	956	1140	830	9640	1570	1040	3100	20000	7620	1560	4860
5	708	853	1050	806	6740	1230	4130	2130	21400	7520	3960	2230
6	670	786	991	821	8460	1020	6850	2010	21900	5930	1820	1930
7	632	743	961	831	8680	924	8500	1970	18600	4490	962	2930
8	624	746	925	839	5610	930	5540	2080	14100	4600	857	2460
9	651	730	908	841	4610	955	2890	3880	10800	4530	757	1430
10	660	718	2390	804	5000	950	1890	6560	9980	4530	707	1750
11	721	731	20200	802	4510	1090	2100	10200	10300	4840	2370	2890
12	788	1000	15000	800	4020	1280	3440	11600	10600	5210	2520	3710
13	775	869	6800	785	4010	1240	6740	8530	10600	5410	1630	3990
14	719	780	3440	800	4490	1070	6250	4220	10500	5470	980	3650
15	1050	856	2710	814	4950	1190	4260	4640	10300	5230	805	2170
16	1030	4320	2010	834	5180	1170	4140	5310	10100	4810	726	1660
17	803	3630	1550	833	5360	995	3520	6620	11000	4470	684	1240
18	902	1840	1410	816	5600	983	3990	13800	11900	3280	644	1030
19	7840	2090	1600	797	5550	1700	3880	16200	12400	1750	693	915
20	13600	2020	1320	788	5510	1580	8010	16800	11600	1240	680	812
21	7770	1280	1180	807	5460	1080	10700	9000	10800	1160	654	761
22	2860	945	1130	789	5450	978	10100	4770	10400	1790	652	782
23	1430	917	1090	803	5150	902	4810	5750	10200	2310	629	813
24	1140	896	1070	807	4900	841	3110	6270	9930	1650	613	710
25	1040	943	1030	828	4880	829	3080	7360	9760	1310	826	705
26	939	917	972	776	4790	846	3010	8780	9670	1030	831	686
27	848	4360	945	785	4490	846	2610	7310	9540	782	722	675
28	797	7020	954	818	3570	852	2630	3020	9130	727	669	671
29	1590	3290	930	816	---	828	2560	4260	8470	735	696	967
30	4230	1650	894	808	---	810	2430	5480	7920	751	651	857
31	3150	---	903	799	---	797	---	5930	---	730	594	---
TOTAL	63971	49836	80483	25270	140602	35266	124728	202490	359220	116695	31963	56167
MEAN	2064	1661	2596	815	5022	1138	4158	6532	11970	3764	1031	1872
MAX	13600	7020	20200	892	9640	2350	10700	16800	21900	7730	3960	6270
MIN	624	718	894	776	803	797	827	1970	7520	727	594	563
AC-FT	126900	98850	159600	50120	278900	69950	247400	401600	712500	231500	63400	111400

CAL YR 1985 TOTAL 1153614 MEAN 3161 MAX 20600 MIN 558 AC-FT 2288000
WTR YR 1986 TOTAL 1286691 MEAN 3525 MAX 21900 MIN 563 AC-FT 2552000

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1954 to current year. Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: January 1968 to July 1981.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1954 to current year.
pH: March 1977 to current year.
WATER TEMPERATURES: October 1954 to current year.
DISSOLVED OXYGEN: March 1977 to current year.

INSTRUMENTATION.--Beginning March 1977, a four-parameter water-quality monitor records temperature, DO, pH, and specific conductance continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum or minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 2,990 microsiemens Oct. 13, 1956; minimum, 122 microsiemens Sept. 30, 1981.
pH: Maximum, 9.9 units July 12, 1982; minimum, 6.8 units Oct. 3, 19, 20, Nov. 19, 1980.
WATER TEMPERATURES: Maximum, 36.0°C July 1, 1955; minimum, 1.0°C on many days during winter months.
DISSOLVED OXYGEN: Maximum, 11.4 mg/L Feb. 12, 1986; minimum, 0.0 mg/L on several days during 1979-81.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 775 microsiemens Jan. 20, 31, Aug. 24; minimum, 206 microsiemens Jan. 15.
pH: Maximum, 8.1 units Feb. 22; minimum, 7.1 units Oct. 12.
WATER TEMPERATURE: Maximum, 32.0°C on several days during July and August; minimum, 8.0°C Feb. 11, 12.
DISSOLVED OXYGEN: Maximum, 11.4 mg/L Feb. 12; minimum, 0.4 mg/L Aug. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV										
13...	1500	894	608	7.30	20.5	3.2	36	14	150	12
JAN										
29...	1400	840	728	7.50	13.5	6.6	64	10	160	15
APR										
16...	0945	4220	422	7.40	19.0	6.6	71	3.1	140	24
JUN										
17...	1445	11100	366	7.40	25.5	5.5	67	2.0	130	18
JUL										
22...	1500	1930	534	7.40	30.0	4.3	--	[illegible]	140	9
SEP										
09...	1415	1340	462	7.40	27.0	4.6	58	4.7	140	30

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
NOV										
13...	53	4.3	59	2	4.6	138	65	55	0.8	7.3
JAN										
29...	57	5.3	77	3	9.9	149	89	66	1.0	6.7
APR										
16...	49	3.8	31	1	5.5	114	54	24	0.5	4.3
JUN										
17...	46	4.2	21	0.8	5.2	114	34	19	0.4	5.7
JUL										
22...	47	4.4	53	2	7.5	126	61	47	0.7	7.1
SEP										
09...	49	3.6	36	1	6.6	107	62	30	0.5	7.8

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)
NOV									
13...	330	3.33	0.97	4.30	2.10	1.2	3.3	2.50	6
JAN									
29...	400	17.9	1.10	19.0	3.80	2.4	6.2	3.70	--
APR									
16...	240	1.77	0.23	2.00	0.36	1.0	1.4	0.88	--
JUN									
17...	200	1.01	0.09	1.10	0.18	0.52	0.7	0.34	--
JUL									
22...	300	3.11	0.39	3.50	0.63	0.97	1.6	1.90	--
SEP									
09...	260	2.24	0.46	2.70	0.29	0.91	1.2	1.50	--

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	63971	433	245	42300	28	4880	52	8930	140
NOV. 1985	49836	523	295	39700	36	4870	63	8530	150
DEC. 1985	80483	523	295	64100	36	7820	63	13800	150
JAN. 1986	25270	737	412	28100	60	4090	94	6390	160
FEB. 1986	140602	428	242	92000	27	10100	50	19200	140
MAR. 1986	35266	653	367	34900	50	4760	81	7760	160
APR. 1986	124728	420	238	80100	26	8810	50	16700	140
MAY 1986	202490	385	218	119000	23	12500	45	24500	130
JUNE 1986	359220	366	208	202000	21	20600	42	41100	130
JULY 1986	116695	391	222	69900	24	7410	46	14400	130
AUG. 1986	31963	562	316	27300	40	3470	69	5940	160
SEPT 1986	56167	463	262	39700	31	4640	55	8410	140
TOTAL	1286691	**	**	839000	**	93900	**	176000	**
WTD.AVG.	3525	427	242	**	27	**	51	**	140

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	406	360	390	480	444	463	---	---	634	703	673	691
2	444	400	427	561	484	521	---	---	427	715	687	703
3	529	446	486	605	563	586	---	---	495	717	705	710
4	599	535	559	643	595	616	---	---	514	705	689	698
5	657	603	630	645	633	639	---	---	551	731	691	714
6	695	659	683	649	639	644	---	---	578	745	723	734
7	709	689	700	679	645	670	---	---	607	737	711	726
8	709	701	705	705	679	699	---	---	643	749	703	728
9	713	689	701	711	697	706	---	---	647	759	739	751
10	721	699	710	719	709	715	---	---	658	763	745	755
11	715	699	705	733	715	723	---	---	486	747	737	742
12	711	695	703	713	683	696	---	---	401	759	743	750
13	717	649	679	687	577	632	---	---	462	773	751	761
14	701	659	686	633	571	601	---	---	539	771	751	758
15	683	659	669	663	635	652	---	---	572	759	206	716
16	679	464	552	685	362	523	---	---	563	753	735	747
17	603	519	556	432	386	410	---	---	630	757	725	743
18	623	557	602	496	436	462	607	587	597	739	725	733
19	561	222	380	549	486	503	649	607	629	761	741	753
20	330	234	272	531	472	493	643	583	622	775	749	763
21	342	316	326	559	503	540	641	583	605	759	729	748
22	422	344	381	623	563	584	651	643	645	---	---	746
23	511	426	468	679	629	647	667	651	660	---	---	727
24	577	513	546	703	681	691	677	655	664	---	---	725
25	633	573	600	707	685	698	675	657	668	---	---	738
26	665	637	649	697	673	684	675	653	668	---	---	747
27	679	629	659	677	288	545	659	647	653	---	---	759
28	687	671	678	396	284	365	651	637	643	---	---	775
29	681	519	605	458	396	430	673	635	656	745	729	738
30	627	350	434	503	460	480	685	667	676	749	711	728
31	444	414	428	---	---	---	685	669	678	775	739	753
MONTH	721	222	567	733	284	587	685	583	596	775	206	737

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	773	749	755	529	496	514	739	723	728	468	394	432
2	773	747	758	561	521	537	739	703	727	442	356	405
3	773	366	603	581	565	570	739	725	731	412	372	387
4	430	330	386	579	567	573	747	723	738	478	402	439
5	464	410	430	613	597	606	763	404	596	494	474	480
6	404	348	376	661	603	630	412	372	395	503	480	486
7	420	370	407	701	663	675	382	352	362	503	490	497
8	480	408	444	735	701	711	410	364	386	527	492	504
9	505	448	478	753	735	748	438	412	432	519	408	433
10	460	442	448	755	725	747	591	436	507	438	348	409
11	466	452	460	739	697	716	613	551	581	382	324	355
12	464	456	459	729	671	697	537	438	495	358	346	350
13	511	446	468	677	651	663	402	316	367	428	360	385
14	454	438	443	689	649	665	400	370	384	468	428	443
15	460	426	438	709	675	691	418	400	405	428	406	414
16	448	416	424	729	697	711	428	414	420	408	402	405
17	420	406	414	699	679	690	442	418	426	406	356	388
18	414	396	408	691	665	673	434	414	424	348	280	311
19	414	400	408	693	651	669	424	384	406	342	328	334
20	426	402	409	679	581	622	402	272	350	362	338	348
21	414	396	407	625	605	613	394	326	350	462	364	407
22	414	400	408	643	605	617	372	336	356	496	434	460
23	416	396	409	685	647	659	452	374	406	438	396	410
24	422	402	413	701	689	696	505	452	477	394	390	392
25	428	400	415	707	701	704	458	444	451	402	354	374
26	422	404	414	705	697	701	460	444	450	442	310	346
27	426	414	419	725	697	717	460	450	453	412	326	368
28	492	420	447	721	701	714	511	460	486	523	414	463
29	---	---	---	727	699	712	513	460	476	535	412	478
30	---	---	---	737	723	729	494	446	473	412	388	397
31	---	---	---	741	729	734	---	---	---	390	380	386
MONTH	773	330	455	755	496	668	763	272	475	535	280	409

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	392	270	353	368	364	365	727	665	672	745	673	691
2	344	262	301	368	362	365	737	655	664	723	541	684
3	326	292	311	378	362	366	737	663	682	458	286	329
4	340	322	329	364	334	357	693	607	667	360	332	346
5	352	338	345	368	340	358	621	362	456	492	362	416
6	372	340	353	378	366	371	414	374	396	519	478	491
7	384	372	379	410	378	396	478	416	449	535	452	496
8	400	384	395	392	380	384	567	480	515	444	330	394
9	408	398	406	386	376	381	613	559	589	472	366	428
10	406	358	380	386	374	380	649	605	622	555	474	528
11	416	370	395	384	376	381	671	292	571	521	406	461
12	412	388	402	376	368	371	531	324	410	404	377	386
13	388	382	385	368	358	364	448	390	427	382	367	376
14	390	384	387	364	356	361	482	422	447	425	380	402
15	388	384	386	374	354	365	587	488	533	456	412	430
16	384	378	382	376	368	372	659	589	617	473	458	463
17	378	362	368	386	368	375	709	627	657	488	477	482
18	368	356	360	398	380	384	733	665	672	535	476	500
19	370	356	364	452	390	414	721	665	672	580	539	561
20	382	368	376	505	450	470	717	649	661	578	564	578
21	380	374	377	553	501	522	733	645	662	626	593	606
22	378	376	376	569	525	545	733	655	673	647	624	634
23	376	372	374	559	428	487	745	677	686	647	627	638
24	374	368	371	523	412	462	775	681	697	654	626	640
25	372	368	371	521	486	504	751	693	703	632	650	667
26	372	366	369	577	468	512	705	639	680	696	684	689
27	370	366	369	655	567	604	649	517	575	716	690	702
28	372	368	370	693	625	642	671	587	631	750	708	724
29	372	370	371	689	647	656	703	671	680	760	734	750
30	370	366	368	697	639	654	703	669	678	728	564	665
31	---	---	---	721	657	668	727	675	688	---	---	---
MONTH	416	262	369	721	334	446	775	292	604	760	286	539

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.50	7.40	7.50	7.50	7.50	7.50	---	---	---	7.70	7.60	7.60
2	7.50	7.40	7.40	7.50	7.40	7.50	---	---	---	7.60	7.60	7.60
3	[illegible]	7.40	7.40	7.50	7.40	7.40	---	---	---	7.60	7.60	7.60
4	7.40	7.30	7.40	7.50	7.40	7.50	---	---	---	7.60	7.50	7.50
5	7.40	7.40	7.40	7.50	7.40	7.50	---	---	---	7.50	7.50	7.50
6	7.40	7.40	7.40	7.50	7.50	7.50	---	---	---	7.50	7.50	7.50
7	7.40	7.40	7.40	7.50	7.50	7.50	---	---	---	7.50	7.50	7.50
8	7.40	7.30	7.40	7.50	7.40	7.50	---	---	---	7.60	7.50	7.60
9	7.30	7.20	7.30	7.40	7.40	7.40	---	---	---	7.60	7.60	7.60
10	7.20	7.20	7.20	7.40	7.30	7.30	---	---	---	7.60	7.60	7.60
11	7.20	7.20	7.20	7.30	7.30	7.30	---	---	---	7.60	7.60	7.60
12	7.20	7.10	7.20	7.30	7.30	7.30	---	---	---	7.60	7.50	7.60
13	7.20	7.20	7.20	7.30	7.20	7.30	---	---	---	7.60	7.50	7.60
14	7.20	7.20	7.20	7.30	7.20	7.30	---	---	---	7.60	7.50	7.60
15	7.30	7.20	7.20	7.30	7.30	7.30	---	---	---	7.60	7.50	7.50
16	7.30	7.20	7.20	7.60	7.20	7.40	---	---	---	7.50	7.50	7.50
17	7.30	7.20	7.20	7.50	7.50	7.50	---	---	---	7.50	7.40	7.50
18	7.30	7.20	7.20	7.50	7.40	7.40	7.70	7.70	7.70	7.50	7.40	7.50
19	7.80	7.30	7.50	7.40	7.30	7.40	7.70	7.60	7.70	7.50	7.40	7.40
20	7.80	7.50	7.60	7.40	7.30	7.40	7.80	7.70	7.70	7.40	7.40	7.40
21	7.50	7.40	7.50	7.40	7.30	7.40	7.80	7.70	7.80	7.40	7.40	7.40
22	7.50	7.40	7.40	7.40	7.30	7.30	7.70	7.70	7.70	7.40	7.40	7.40
23	7.40	7.40	7.40	7.30	7.30	7.30	7.70	7.70	7.70	---	---	---
24	7.40	7.30	7.40	7.40	7.30	7.30	7.70	7.70	7.70	---	---	---
25	7.40	7.30	7.30	7.40	7.40	7.40	7.70	7.70	7.70	---	---	---
26	7.40	7.30	7.40	7.40	7.30	7.40	7.70	7.70	7.70	---	---	---
27	7.40	7.30	7.40	7.60	7.30	7.40	7.80	7.70	7.70	---	---	---
28	7.50	7.40	7.40	7.60	7.50	7.50	7.80	7.70	7.80	---	---	---
29	7.50	7.40	7.40	7.60	7.60	7.60	7.70	7.70	7.70	7.60	7.50	7.60
30	7.60	7.40	7.50	7.60	7.60	7.60	7.70	7.70	7.70	7.60	7.60	7.60
31	7.60	7.50	7.50	---	---	---	7.70	7.60	7.70	7.60	7.60	7.60
MONTH	7.80	7.10	7.36	7.60	7.20	7.41	7.80	7.60	7.71	7.70	7.40	7.54

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.60	7.60	7.60	7.80	7.70	7.80	7.40	7.40	7.40	7.50	7.50	7.50
2	7.60	7.60	7.60	7.80	7.70	7.70	7.40	7.30	7.40	7.50	7.40	7.50
3	7.80	7.60	7.70	7.70	7.70	7.70	7.40	7.30	7.30	7.50	7.40	7.50
4	7.80	7.60	7.70	7.70	7.70	7.70	7.40	7.30	7.30	7.50	7.40	7.50
5	7.80	7.60	7.70	7.70	7.70	7.70	7.30	7.20	7.30	7.50	7.40	7.50
6	7.90	7.80	7.90	7.70	7.70	7.70	7.40	7.30	7.40	7.60	7.50	7.50
7	7.90	7.90	7.90	7.70	7.60	7.70	7.50	7.40	7.40	7.50	7.50	7.50
8	7.90	7.90	7.90	7.60	7.60	7.60	7.50	7.40	7.40	7.50	7.40	7.50
9	8.00	7.90	7.90	7.60	7.50	7.60	7.40	7.40	7.40	7.50	7.40	7.50
10	8.00	7.90	8.00	7.50	7.40	7.50	7.40	7.30	7.40	7.50	7.40	7.50
11	8.00	7.90	8.00	7.50	7.40	7.40	7.40	7.30	7.30	7.60	7.50	7.50
12	8.00	7.90	7.90	7.50	7.40	7.40	7.40	7.30	7.40	7.60	7.50	7.50
13	8.00	7.90	7.90	7.50	7.40	7.40	7.60	7.50	7.50	7.50	7.50	7.50
14	8.00	7.90	8.00	7.50	7.40	7.40	7.60	7.50	7.50	7.60	7.50	7.50
15	8.00	7.90	8.00	7.40	7.40	7.40	7.60	7.50	7.60	7.70	7.50	7.60
16	8.00	7.90	8.00	7.50	7.40	7.50	7.60	7.40	7.50	7.70	7.60	7.60
17	8.00	7.90	7.90	7.50	7.50	7.50	7.60	7.50	7.50	7.70	7.60	7.70
18	8.00	7.90	7.90	7.50	7.50	7.50	7.50	7.50	7.50	7.70	7.60	7.70
19	8.00	7.90	7.90	7.50	7.40	7.40	7.50	7.50	7.50	7.60	7.60	7.60
20	7.90	7.90	7.90	7.50	7.40	7.40	7.60	7.50	7.50	7.60	7.50	7.60
21	8.00	7.90	7.90	7.50	7.40	7.40	7.50	7.50	7.50	7.50	7.50	7.50
22	8.10	8.00	8.00	7.40	7.40	7.40	7.50	7.50	7.50	7.60	7.50	7.60
23	8.00	8.00	8.00	7.40	7.30	7.30	7.50	7.50	7.50	7.70	7.60	7.70
24	8.00	7.90	7.90	7.30	7.30	7.30	7.50	7.40	7.40	7.70	7.70	7.70
25	8.00	7.90	7.90	7.30	7.30	7.30	7.50	7.40	7.50	7.80	7.70	7.70
26	7.90	7.90	7.90	7.30	7.30	7.30	7.50	7.40	7.50	7.70	7.60	7.70
27	7.90	7.80	7.90	7.30	7.30	7.30	7.50	7.40	7.50	7.70	7.60	7.60
28	7.90	7.80	7.80	7.30	7.30	7.30	7.50	7.40	7.40	7.50	7.50	7.50
29	---	---	---	7.30	7.30	7.30	7.40	7.30	7.40	7.60	7.50	7.50
30	---	---	---	7.30	7.30	7.30	7.50	7.40	7.40	7.70	7.60	7.70
31	---	---	---	7.40	7.30	7.30	---	---	---	7.70	7.70	7.70
MONTH	8.10	7.60	7.88	7.80	7.30	7.47	7.60	7.20	7.44	7.80	7.40	7.57

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.70	7.60	7.70	7.70	7.60	7.60	7.60	7.40	7.40	7.40	7.40	7.40
2	7.70	7.60	7.60	7.70	7.60	7.60	7.50	7.40	7.40	7.40	7.20	7.30
3	7.60	7.50	7.50	7.60	7.60	7.60	7.50	7.30	7.40	7.60	7.40	7.60
4	7.50	7.40	7.50	7.60	7.50	7.60	7.40	7.30	7.40	7.60	7.40	7.50
5	7.50	7.50	7.50	7.60	7.50	7.60	7.40	7.30	7.30	7.50	7.40	7.40
6	7.50	7.50	7.50	7.60	7.60	7.60	7.40	7.30	7.30	7.50	7.30	7.40
7	7.50	7.50	7.50	7.60	7.50	7.60	7.40	7.40	7.40	7.50	7.30	7.40
8	7.50	7.50	7.50	7.60	7.60	7.60	7.50	7.30	7.40	7.60	7.40	7.50
9	7.60	7.50	7.60	7.60	7.50	7.60	7.40	7.30	7.30	7.50	7.40	7.50
10	7.60	7.60	7.60	7.60	7.50	7.50	7.40	7.30	7.40	7.50	7.30	7.40
11	7.60	7.60	7.60	7.60	7.50	7.50	7.40	7.20	7.30	7.50	7.40	7.40
12	7.60	7.60	7.60	7.60	7.60	7.60	7.50	7.30	7.40	7.60	7.50	7.60
13	7.60	7.60	7.60	7.70	7.60	7.60	7.40	7.30	7.30	7.60	7.60	7.60
14	7.70	7.60	7.70	7.70	7.60	7.60	7.30	7.30	7.30	7.70	7.60	7.70
15	7.70	7.70	7.70	7.70	7.60	7.60	7.40	7.30	7.30	7.70	7.60	7.70
16	7.70	7.70	7.70	7.60	7.60	7.60	7.40	7.30	7.40	7.60	7.50	7.50
17	7.70	7.40	7.70	7.60	7.60	7.60	7.40	7.30	7.40	7.60	7.50	7.50
18	7.60	7.60	7.60	7.60	7.50	7.60	7.50	7.30	7.40	7.60	7.40	7.50
19	7.60	7.60	7.60	7.50	7.40	7.50	7.60	7.30	7.40	7.50	7.40	7.40
20	7.60	7.60	7.60	7.50	7.40	7.40	7.60	7.40	7.50	7.50	7.40	7.40
21	7.60	7.60	7.60	7.40	7.40	7.40	7.50	7.30	7.40	7.50	7.40	7.40
22	7.60	7.60	7.60	7.40	7.40	7.40	7.40	7.30	7.40	7.40	7.40	7.40
23	7.60	7.60	7.60	7.30	7.20	7.20	7.40	7.30	7.40	7.50	7.40	7.40
24	7.70	7.60	7.60	7.30	7.30	7.30	7.50	7.40	7.40	7.50	7.40	7.40
25	7.70	7.60	7.60	7.30	7.30	7.30	7.40	7.30	7.30	7.50	7.40	7.40
26	7.60	7.60	7.60	7.40	7.30	7.30	7.50	7.30	7.40	7.50	7.40	7.40
27	7.60	7.60	7.60	7.40	7.30	7.40	7.40	7.30	7.40	7.40	7.40	7.40
28	7.60	7.60	7.60	7.50	7.30	7.40	7.40	7.30	7.40	7.40	7.30	7.40
29	7.60	7.60	7.60	7.70	7.40	7.50	7.50	7.40	7.40	7.40	7.40	7.40
30	7.60	7.60	7.60	7.60	7.40	7.50	7.50	7.40	7.40	7.40	7.40	7.40
31	---	---	---	7.60	7.40	7.50	7.40	7.40	7.40	---	---	---
MONTH	7.70	7.40	7.60	7.70	7.20	7.51	7.60	7.20	7.38	7.70	7.20	7.46

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	20.5	19.5	20.0	17.5	17.0	17.0	---	---	---	12.0	11.5	11.5
2	20.0	19.0	20.0	18.0	17.0	17.5	---	---	---	13.0	12.0	12.5
3	21.0	20.0	20.5	18.0	17.0	17.5	---	---	---	13.0	12.5	12.5
4	22.0	21.5	21.5	18.0	17.0	17.5	---	---	---	13.0	12.5	13.0
5	21.5	21.0	21.5	18.5	17.5	18.0	---	---	---	12.5	11.5	12.0
6	22.0	20.5	21.0	19.0	18.0	18.0	---	---	---	12.0	11.5	12.0
7	22.0	20.5	21.0	18.5	18.0	18.0	---	---	---	12.0	10.5	11.5
8	22.5	21.5	22.0	18.5	17.5	18.0	---	---	---	10.5	10.0	10.0
9	23.5	22.0	23.0	20.0	19.0	19.5	---	---	---	11.0	10.0	10.5
10	24.5	23.5	24.0	21.0	20.0	20.5	---	---	---	11.0	10.0	10.5
11	25.0	23.5	24.0	20.0	19.0	19.5	---	---	---	11.5	10.5	11.0
12	25.5	24.5	25.0	21.0	19.0	20.0	---	---	---	12.0	11.0	11.5
13	26.0	25.5	25.5	21.0	20.5	21.0	---	---	---	12.5	11.5	12.0
14	26.5	25.5	26.0	21.5	20.5	21.0	---	---	---	13.0	11.5	12.0
15	25.0	24.5	25.0	22.0	19.5	20.5	---	---	---	19.5	12.0	13.0
16	24.5	23.5	24.0	20.5	16.5	18.5	---	---	---	15.0	13.5	14.5
17	24.0	24.0	24.0	17.5	16.0	16.5	---	---	---	15.5	15.0	15.0
18	24.5	23.5	24.0	19.0	17.5	18.0	10.0	9.5	10.0	15.5	14.5	15.0
19	24.0	22.0	22.5	20.0	19.0	19.5	11.0	9.5	10.0	15.5	14.5	15.0
20	22.5	21.5	22.0	19.5	17.5	18.0	10.5	9.0	10.0	16.0	15.0	16.0
21	22.5	22.0	22.0	17.5	16.5	17.0	10.5	8.5	9.5	16.5	15.0	16.0
22	22.5	22.0	22.0	17.0	16.0	16.5	12.0	10.5	11.0	---	---	16.0
23	24.0	22.5	23.0	18.0	17.0	17.5	12.5	11.5	12.0	---	---	---
24	24.5	23.5	24.0	18.0	18.0	18.0	12.5	11.5	12.0	---	---	---
25	24.5	24.0	24.5	20.0	18.0	19.0	11.5	10.0	10.5	---	---	---
26	24.5	24.0	24.0	20.5	20.0	20.5	10.0	9.5	10.0	---	---	---
27	23.5	22.5	23.0	20.5	16.5	19.0	10.5	10.0	10.5	---	---	---
28	22.5	20.5	21.5	16.5	14.5	15.5	10.5	9.5	10.0	---	---	---
29	20.5	18.5	19.5	14.5	13.5	13.5	11.0	10.0	10.5	14.0	13.0	13.5
30	19.5	17.0	18.0	15.0	13.5	14.0	12.0	11.0	11.5	14.0	12.5	13.5
31	17.5	17.0	17.5	---	---	---	12.0	11.5	12.0	15.5	13.5	15.0
MONTH	26.5	17.0	22.5	22.0	13.5	18.0	12.5	8.5	10.5	19.5	10.0	13.0

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	17.0	15.5	16.5	13.5	12.5	13.0	22.0	22.0	22.0	22.5	21.5	22.0
2	18.0	17.0	17.5	14.5	13.0	13.5	22.0	21.5	21.5	22.5	21.0	21.5
3	18.5	17.5	18.0	15.0	14.5	15.0	22.0	21.5	21.5	22.5	21.5	22.0
4	17.5	16.5	17.0	15.5	14.5	14.5	23.0	21.5	22.0	23.5	22.0	22.5
5	17.5	15.5	16.5	16.0	15.0	16.0	23.0	22.0	22.0	23.5	22.5	23.0
6	15.5	13.0	14.0	16.5	15.5	16.0	22.5	21.5	21.5	23.5	22.5	23.0
7	13.5	12.5	13.0	17.0	16.5	16.5	22.5	21.0	21.5	23.5	23.0	23.5
8	12.5	11.5	12.0	18.0	17.0	17.5	23.0	22.0	22.5	24.5	23.5	24.0
9	11.5	9.5	10.5	19.5	18.0	18.5	23.0	20.5	21.5	24.0	22.5	23.0
10	9.5	8.5	9.0	20.0	19.0	19.5	21.5	20.0	20.5	23.5	22.5	23.0
11	8.5	8.0	8.5	20.0	19.0	19.5	21.5	20.0	20.5	23.0	22.0	22.5
12	8.5	8.0	8.5	20.0	19.0	19.5	21.0	19.5	20.5	25.0	23.0	23.5
13	9.0	8.5	8.5	19.5	18.5	19.0	20.0	17.5	19.0	26.0	24.0	25.0
14	10.0	9.0	9.5	19.0	18.0	18.5	20.5	19.5	20.0	26.0	24.5	25.0
15	10.5	9.5	10.0	19.5	18.5	19.0	20.5	19.5	20.0	24.5	23.0	24.0
16	12.0	10.5	11.0	19.5	18.5	19.0	20.0	19.0	19.5	23.5	23.0	23.5
17	13.0	11.5	12.5	19.0	18.5	18.5	20.5	19.0	19.5	23.5	21.5	22.5
18	13.0	12.0	12.5	19.5	19.0	19.0	20.0	19.5	20.0	21.5	20.0	20.5
19	13.5	12.0	13.0	19.0	18.0	18.5	20.0	19.5	20.0	21.5	20.5	21.0
20	14.0	12.5	13.0	18.5	17.0	17.5	19.0	18.5	19.0	22.5	21.0	21.5
21	13.0	12.0	12.5	17.0	16.0	16.5	19.5	19.0	19.0	24.0	22.0	23.0
22	12.0	11.0	11.5	17.0	16.0	16.5	20.0	19.0	19.5	24.5	23.0	24.0
23	12.0	11.0	11.5	18.0	16.5	17.0	21.0	19.5	20.0	24.5	23.0	23.5
24	13.0	11.5	12.0	19.0	17.5	18.0	22.0	20.5	21.5	24.5	23.5	24.0
25	13.5	12.0	12.5	19.5	18.5	19.0	22.0	21.0	21.5	23.5	22.5	23.0
26	14.0	12.5	13.5	20.0	19.0	19.5	22.5	21.5	22.0	23.0	20.0	22.0
27	13.5	13.0	13.5	21.0	19.5	20.5	22.5	21.5	22.0	23.5	21.5	22.5
28	13.5	12.5	13.0	22.0	20.5	21.0	22.5	20.5	21.5	24.5	23.0	23.5
29	---	---	---	22.5	21.0	21.5	22.5	22.0	22.0	25.0	24.0	24.5
30	---	---	---	22.5	21.5	22.0	23.0	22.0	22.5	25.0	24.0	24.5
31	---	---	---	22.5	21.5	22.0	---	---	---	24.5	24.0	24.5
MONTH	18.5	8.0	12.5	22.5	12.5	18.0	23.0	17.5	21.0	26.0	20.0	23.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	24.0	24.0	24.0	28.0	27.0	27.5	32.0	31.0	31.5	27.0	26.5	27.0
2	24.0	23.5	23.5	27.0	26.5	27.0	32.0	31.0	31.5	27.5	26.0	27.0
3	25.0	24.0	24.5	27.0	26.0	26.5	31.5	30.0	30.5	26.0	25.0	25.5
4	25.5	25.0	25.0	28.0	27.0	27.5	30.0	29.0	29.5	27.0	25.5	26.5
5	25.5	25.0	25.0	28.0	27.0	27.5	29.5	28.0	28.5	27.0	27.0	27.0
6	25.5	25.0	25.0	28.0	27.0	27.5	28.5	28.0	28.5	27.0	27.0	27.0
7	26.5	25.5	26.0	28.5	27.5	28.0	29.0	28.5	29.0	27.0	26.5	27.0
8	27.0	26.0	26.5	29.0	27.5	28.5	29.5	29.0	29.5	26.5	25.5	26.0
9	27.5	26.5	27.0	29.0	28.0	28.5	30.0	29.0	29.5	27.0	26.0	26.5
10	27.0	26.5	26.5	29.0	28.0	28.5	30.0	29.0	29.5	28.0	27.0	27.5
11	26.5	26.0	26.5	28.5	27.5	28.0	29.5	27.5	29.0	28.0	27.0	27.5
12	27.0	26.0	26.5	28.5	27.0	28.0	28.5	27.0	28.0	27.5	26.0	27.0
13	27.5	26.0	26.5	28.0	27.0	27.5	29.0	27.5	28.0	27.5	26.0	26.5
14	27.5	26.5	27.0	28.5	27.0	27.5	29.5	28.0	28.5	27.5	26.5	27.0
15	27.0	26.5	27.0	29.0	27.5	28.0	30.0	29.0	29.5	28.0	26.5	27.5
16	26.5	26.0	26.5	29.0	27.5	28.0	30.0	29.0	29.5	28.5	27.5	28.0
17	26.0	25.5	25.5	29.0	27.5	28.0	30.5	29.5	30.0	28.5	27.5	28.0
18	27.0	25.5	26.5	29.0	27.5	28.5	31.0	30.0	30.5	28.5	28.0	28.5
19	27.5	26.5	27.0	30.0	28.0	29.0	31.0	30.0	30.5	28.5	28.5	28.5
20	27.5	27.0	27.0	30.5	29.5	30.0	31.0	30.0	30.5	28.5	28.0	28.5
21	28.0	27.0	27.5	31.0	30.0	30.5	30.5	29.5	30.0	28.5	28.0	28.0
22	28.0	27.0	27.5	31.0	29.5	30.0	29.5	28.5	29.0	28.5	28.0	28.0
23	28.0	27.5	27.5	30.5	29.0	29.5	29.0	28.5	28.5	28.5	28.0	28.0
24	28.0	27.5	28.0	31.0	29.0	30.0	28.5	28.0	28.5	28.5	28.0	28.0
25	28.0	27.5	27.5	31.0	30.0	30.5	29.5	27.5	28.5	28.5	27.5	29.0
26	28.0	27.5	27.5	31.0	30.0	31.0	30.0	28.5	29.5	28.5	28.0	28.0
27	28.0	27.5	27.5	31.5	31.0	31.5	30.0	29.5	29.5	28.5	28.0	28.5
28	28.5	27.5	28.0	32.0	30.5	31.5	29.5	28.0	29.0	29.0	28.0	28.5
29	28.5	27.5	28.0	32.0	30.5	31.5	28.0	27.0	27.5	28.5	28.0	28.0
30	28.0	27.0	27.5	32.0	31.0	31.5	28.0	27.0	27.5	28.0	27.5	28.0
31	---	---	---	32.0	31.0	31.5	28.0	27.0	27.5	---	---	---
MONTH	28.5	23.5	26.5	32.0	26.0	29.0	32.0	27.0	29.0	29.0	25.0	27.5

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	4.8	3.4	4.4	6.2	5.9	6.1	---	---	---	7.1	6.9	7.0
2	6.4	3.3	6.0	6.1	5.4	5.8	---	---	---	7.0	6.6	6.8
3	6.5	5.7	6.2	5.7	4.9	5.3	---	---	---	6.8	6.6	6.7
4	5.8	5.4	5.6	5.4	4.8	5.1	---	---	---	7.0	6.7	6.8
5	5.9	5.3	5.6	5.0	4.7	4.9	---	---	---	7.0	6.7	6.9
6	6.5	5.3	5.7	5.0	4.7	4.9	---	---	---	6.8	6.4	6.6
7	6.5	5.8	6.1	4.9	4.4	4.6	---	---	---	7.2	6.5	6.8
8	6.3	4.9	5.6	4.6	4.1	4.3	---	---	---	7.4	7.0	7.2
9	4.7	4.2	4.4	4.1	3.7	3.9	---	---	---	7.4	6.9	7.1
10	4.7	4.0	4.3	3.9	3.4	3.6	---	---	---	7.4	7.0	7.2
11	4.6	3.6	3.9	3.7	3.4	3.6	---	---	---	7.4	7.0	7.2
12	3.6	2.6	3.1	3.6	3.0	3.2	---	---	---	7.1	6.8	6.9
13	2.6	1.3	2.1	3.3	2.8	3.0	---	---	---	6.9	6.4	6.7
14	2.8	1.9	2.3	3.4	3.2	3.3	---	---	---	6.8	6.3	6.5
15	3.1	1.9	2.5	3.6	3.2	3.5	---	---	---	6.8	6.3	6.5
16	2.4	1.3	1.9	6.0	1.7	3.9	---	---	---	6.2	5.4	5.7
17	3.1	2.1	2.8	6.5	5.6	6.1	---	---	---	5.4	5.1	5.2
18	3.8	2.8	3.2	5.5	4.7	5.0	9.1	8.9	9.0	5.3	5.0	5.1
19	5.5	3.6	4.3	4.7	3.8	4.4	8.9	8.0	8.5	5.6	5.1	5.3
20	5.6	4.9	5.3	5.2	3.6	4.5	9.2	8.2	8.7	5.4	4.9	5.1
21	4.9	4.6	4.8	5.3	4.9	5.1	9.1	8.3	8.8	5.7	5.0	5.3
22	4.9	4.7	4.8	5.4	4.9	5.2	8.3	7.8	8.1	---	---	5.3
23	4.9	4.2	4.6	4.9	3.3	4.4	7.7	7.4	7.6	---	---	---
24	4.2	3.6	4.0	4.4	3.9	4.1	7.4	7.3	7.4	---	---	---
25	3.7	3.0	3.4	4.0	3.6	3.8	7.8	7.4	7.6	---	---	---
26	3.6	3.2	3.4	3.9	3.3	3.7	7.9	7.7	7.8	---	---	---
27	3.9	3.4	3.7	5.3	2.7	4.1	8.1	7.9	8.0	---	---	---
28	4.4	3.7	4.0	6.7	5.2	6.1	8.1	7.9	8.0	---	---	---
29	5.4	3.7	4.7	7.0	6.8	6.9	7.9	7.5	7.7	6.7	6.4	6.5
30	6.1	3.4	5.4	7.0	6.8	6.9	7.5	7.0	7.2	7.0	6.2	6.5
31	6.7	6.1	6.4	---	---	---	7.1	6.8	7.0	6.2	5.3	5.7
MONTH	6.7	1.3	4.3	7.0	1.7	4.6	9.2	6.8	8.0	7.4	4.9	6.3

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.4	4.9	5.2	8.8	8.3	8.6	4.1	3.7	3.9	5.8	5.1	5.6
2	5.1	4.3	4.7	8.3	7.6	8.0	4.4	3.8	4.1	6.0	4.5	5.5
3	6.7	4.3	5.3	7.6	7.4	7.4	4.4	3.9	4.1	6.0	4.5	5.6
4	5.7	4.5	5.2	7.6	7.3	7.4	4.1	3.3	3.8	6.0	5.3	5.6
5	7.0	2.5	4.7	6.9	6.8	6.9	2.8	1.3	2.3	5.8	5.2	5.5
6	8.1	7.2	7.7	6.9	6.2	6.6	4.5	1.3	3.4	6.0	5.6	5.8
7	8.3	8.0	8.2	6.4	5.8	6.1	5.3	3.6	4.6	5.8	5.3	5.5
8	9.5	8.4	8.9	6.0	5.6	5.8	5.3	4.7	4.9	5.5	4.8	5.1
9	10.5	9.5	9.9	5.7	5.2	5.5	5.5	4.8	5.1	5.7	4.7	5.3
10	11.0	10.6	10.8	5.2	5.1	5.1	5.5	4.6	5.0	5.7	4.5	5.2
11	11.3	11.0	11.2	5.1	4.3	4.7	4.9	4.2	4.6	5.5	4.5	5.2
12	11.4	10.1	10.6	4.6	4.4	4.5	5.3	4.6	5.0	5.6	5.3	5.4
13	10.2	9.9	10.0	4.9	4.0	4.7	6.1	4.5	5.6	5.6	5.3	5.5
14	10.1	9.9	10.0	4.6	3.9	4.4	6.4	6.1	6.2	5.9	5.0	5.5
15	10.0	9.4	9.8	4.8	4.4	4.5	6.7	6.3	6.5	6.5	5.9	6.4
16	9.8	9.3	9.6	4.8	4.4	4.6	6.8	6.5	6.6	6.7	6.4	6.6
17	9.7	9.0	9.3	4.9	4.7	4.8	6.9	6.3	6.7	6.7	6.5	6.6
18	9.3	9.0	9.1	4.9	4.7	4.8	6.6	5.8	6.3	6.4	5.7	6.0
19	9.2	8.9	9.0	4.8	3.8	4.4	6.8	6.5	6.7	5.7	5.5	5.6
20	9.1	8.7	8.9	5.3	3.8	4.7	6.8	5.4	6.1	5.6	5.3	5.4
21	9.2	8.9	9.0	5.6	5.3	5.5	5.9	4.7	5.2	5.2	4.9	5.1
22	9.4	9.2	9.3	5.9	5.3	5.7	6.1	5.4	5.7	6.2	5.1	5.8
23	9.5	9.3	9.4	5.4	5.0	5.2	6.2	5.8	6.1	6.6	6.3	6.5
24	9.5	9.1	9.3	5.1	4.7	4.9	6.1	5.7	5.9	6.8	6.5	6.6
25	9.3	9.1	9.2	5.1	4.7	4.9	6.3	5.6	6.0	6.8	6.6	6.7
26	9.1	8.8	8.9	4.9	4.7	4.8	6.1	5.8	5.9	6.9	5.4	5.8
27	8.9	8.7	8.8	4.8	4.5	4.7	5.9	5.6	5.7	5.7	5.4	5.6
28	9.4	8.7	9.0	4.6	4.2	4.4	5.7	4.2	5.5	5.5	5.3	5.4
29	---	---	---	4.5	4.2	4.4	5.7	4.0	5.3	6.3	5.2	5.7
30	---	---	---	4.3	3.9	4.1	5.7	5.2	5.4	6.6	6.3	6.5
31	---	---	---	4.3	3.9	4.1	---	---	---	6.6	6.5	6.6
MONTH	11.4	2.5	8.6	8.8	3.8	5.4	6.9	1.3	5.3	6.9	4.5	5.8

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	6.6	5.4	6.2	6.2	6.1	6.2	5.3	3.4	4.3	3.6	3.2	3.4
2	5.6	5.1	5.4	6.3	6.1	6.2	4.5	3.3	3.9	3.3	1.5	2.7
3	5.1	4.2	4.5	6.2	5.6	6.0	4.1	3.1	3.5	4.5	1.6	3.3
4	4.2	4.0	4.1	6.1	5.5	6.0	3.6	1.8	2.8	4.6	4.3	4.5
5	4.4	4.0	4.2	6.1	5.6	6.0	2.3	.8	1.6	4.6	3.9	4.2
6	4.3	4.1	4.2	6.1	5.6	5.8	3.5	2.4	2.9	4.7	3.8	4.4
7	4.3	3.9	4.0	5.7	4.5	5.4	3.8	3.5	3.7	4.6	2.7	4.0
8	4.5	4.3	4.4	6.0	5.8	5.9	4.8	3.6	4.0	4.9	4.6	4.7
9	5.5	4.5	5.0	6.0	5.6	5.8	4.1	3.5	3.8	5.0	4.6	4.8
10	5.5	5.1	5.3	5.8	5.5	5.6	4.2	3.5	3.9	5.1	3.7	4.8
11	5.5	4.9	5.2	5.7	5.5	5.6	4.1	.4	2.4	5.4	4.3	5.7
12	5.6	5.1	5.3	5.9	5.6	5.8	3.1	1.5	2.5	6.0	5.3	6.0
13	5.7	5.6	5.6	6.1	5.9	6.0	3.3	2.2	2.8	6.2	5.8	6.2
14	5.9	5.7	5.8	6.3	6.1	6.2	3.5	3.3	3.4	6.3	6.0	5.9
15	6.1	5.9	6.0	6.3	5.9	6.1	4.2	3.4	3.7	6.1	5.6	5.4
16	6.2	6.1	6.1	6.0	5.8	5.9	4.1	3.5	3.8	5.8	5.2	5.0
17	6.1	5.5	5.7	6.0	5.7	5.8	4.4	3.3	3.8	5.6	4.8	5.0
18	5.7	5.4	5.5	5.8	5.3	5.6	4.6	3.3	4.0	5.5	4.4	5.0
19	5.8	5.6	5.7	5.3	4.5	4.9	5.3	3.5	4.3	5.0	4.3	4.6
20	6.0	5.7	5.8	4.9	4.4	4.6	5.4	3.7	4.5	4.7	4.0	4.4
21	5.9	5.7	5.8	4.4	4.0	4.3	4.8	3.6	4.0	4.4	3.2	4.0
22	6.0	5.9	5.9	4.4	4.2	4.3	4.2	3.5	3.8	4.2	3.7	3.9
23	6.2	6.0	6.1	3.0	1.4	2.0	4.0	3.4	3.7	4.4	3.4	3.9
24	6.2	6.1	6.1	3.3	2.5	2.8	4.0	3.4	3.7	4.9	3.8	4.3
25	6.2	6.0	6.1	3.7	3.4	3.6	3.9	3.0	3.3	4.8	4.0	4.2
26	6.1	5.8	5.9	3.8	3.3	3.6	4.2	3.0	3.6	4.6	3.5	4.0
27	6.1	5.8	5.9	4.1	3.2	3.6	4.1	3.1	3.7	4.5	3.6	3.9
28	6.1	5.8	5.9	4.7	3.4	4.0	4.1	3.2	3.5	4.1	3.4	3.8
29	6.0	5.9	6.0	5.9	3.5	4.6	4.0	3.2	3.5	4.1	3.3	3.6
30	6.2	5.9	6.1	5.3	3.8	4.6	4.9	3.3	3.7	3.8	3.2	3.4
31	---	---	---	5.2	3.7	4.5	3.8	3.3	3.5	---	---	---
MONTH	6.6	3.9	5.5	6.3	1.4	5.1	5.4	.4	3.5	6.3	1.5	4.4

08062700 TRINITY RIVER AT TRINIDAD, TX
(National stream-quality accounting network)

LOCATION.--Lat 32°08'05", long 96°06'20", Henderson County, Hydrologic Unit 12030105, on left bank at pumping station of Texas Power and Light Co., near southwest boundary of Trinidad, 0.5 mi downstream from St. Louis Southwestern Railway Lines bridge, 0.9 mi downstream from bridge on State Highway 31, 8 mi upstream from Cedar Creek, and at mile 391.2.

DRAINAGE AREA.--8,538 mi², not including 1,007 mi² upstream from Cedar Creek Reservoir.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to current year. Records of gage height collected in this vicinity for period October 1913 to September 1915 are contained in reports of U.S. Army Corps of Engineers, and records collected since October 1915 are contained in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 239.21 ft above National Geodetic Vertical Datum of 1929. Prior to May 3, 1967, at site 0.9 mi upstream at datum 1.28 ft higher.

REMARKS.--Estimated daily discharge: June 23 to July 2. Record good. There are 62 floodwater-retarding structures with a combined detention capacity of 38,690 acre-ft in drainage basin above this station. These structures control runoff from 126 mi². For regulation by upstream reservoirs, see Trinity River near Rosser (station 08062500). The spillway outflow from Cedar Creek Reservoir (station 08062650) enters the Trinity River 13 mi upstream from station. There are many diversions above station for municipal supply for the cities of Fort Worth, Dallas, and several small towns. Low flows are maintained by sewage effluent from the Dallas-Fort Worth metroplex. Gage-height telemeter at station. Additional telemeter equipment was discontinued Jan. 31, 1982, and subsequently removed.

AVERAGE DISCHARGE.--22 years, 3,652 ft³/s (2,646,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 83,000 ft³/s May 6, 1969 (gage height, 44.10 ft); minimum daily, 312 ft³/s Aug. 9, 1972.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1908, 49.8 ft Apr. 25, 1942 (present site and datum), from records of the National Weather Service. Flood in 1908 reached a stage of 48.3 ft, present site and datum, from records of the National Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30,500 ft³/s Dec. 13 at 0100 hours (gage height, 38.08 ft); minimum daily, 684 ft³/s Oct. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2620	3560	8160	1010	802	3510	785	4110	6780	8700	830	710
2	2890	2080	4290	995	807	2320	801	6850	8770	8600	810	689
3	1310	1450	2250	992	3020	1760	817	7600	11200	8340	802	2060
4	903	1270	1610	943	15700	1590	836	5820	12100	8410	824	5920
5	803	1120	1300	921	21500	1520	1890	3390	13400	8370	1550	4660
6	758	1000	1170	899	22700	1250	6440	2270	16300	8190	3380	2140
7	727	927	1110	908	20200	1050	9230	2070	23900	6450	1880	2390
8	689	877	1070	912	19700	963	8860	2060	24800	4600	1070	2940
9	684	866	1030	915	15800	953	6380	7990	22500	4490	940	2300
10	697	840	1080	919	11700	976	3190	10100	20100	4400	858	1490
11	702	1240	11500	885	9780	966	1980	15100	18100	4420	842	1550
12	745	1830	24200	874	8070	1070	3830	15200	17000	4810	1980	2450
13	813	1340	29600	870	5130	1220	5920	13900	15600	5250	2250	3310
14	811	1120	26400	856	4450	1220	6970	12600	14200	5520	1590	3670
15	773	1070	20400	862	4830	1080	6500	9990	13300	5570	1060	3330
16	1000	1380	14500	873	5350	1130	4620	6750	13000	5200	896	2100
17	1050	5720	8840	892	5580	1160	4190	8460	14100	4700	816	1580
18	873	5780	4170	889	5830	1010	3710	15900	13700	4160	790	1420
19	3080	2880	2330	873	6050	984	4470	17100	13300	2860	750	1060
20	11100	3690	1910	852	6050	1480	8150	16000	13000	1630	774	975
21	11700	2100	1610	841	5930	1520	8550	15700	12600	1200	770	876
22	12400	1380	1420	849	5880	1100	10500	15600	12600	1230	755	837
23	11400	1050	1340	835	5820	976	10500	14600	11000	1700	752	823
24	5460	1470	1290	838	5430	905	7650	11500	10800	2030	740	856
25	3020	3730	1250	842	5140	848	3680	9290	10700	1570	729	787
26	1760	4280	1190	858	5060	827	3230	9290	10600	1290	832	769
27	1170	6960	1130	823	4900	838	3120	9790	10500	1090	903	758
28	1070	11900	1080	804	4520	840	2730	8650	10300	893	810	749
29	2240	11900	1070	820	---	840	2710	3900	9600	835	759	744
30	4090	10100	1050	820	---	820	2630	4350	8900	846	773	894
31	4780	---	1010	816	---	801	---	5800	---	846	751	---
TOTAL	92118	94910	180360	27286	234729	37527	144869	291730	412750	128200	33266	54837
MEAN	2972	3164	5818	880	8383	1211	4829	9411	13760	4135	1073	1828
MAX	12400	11900	29600	1010	22700	3510	10500	17100	24800	8700	3380	5920
MIN	684	840	1010	804	802	801	785	2060	6780	835	729	689
AC-FT	182700	188300	357700	54120	465600	74430	287300	578600	818700	254300	65980	108800

CAL YR 1985 TOTAL 1507714 MEAN 4131 MAX 29600 MIN 615 AC-FT 2991000
WTR YR 1986 TOTAL 1732582 MEAN 4747 MAX 29600 MIN 684 AC-FT 3437000

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1967 to current year. Pesticide analyses: October 1977 to June 1982.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1977 to September 1981, April to September 1986.
WATER TEMPERATURES: November 1977 to September 1981, April to September 1986.

INSTRUMENTATION.--Since April 1986, a four-parameter water-quality monitor records water temperature, DO, pH, and specific conductance continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum or minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,000 micromhos Dec. 28, 1977; minimum daily, 240 micromhos June 5, 1981.
WATER TEMPERATURES: Maximum daily, 34.0°C July 17, 1979, and July 9, 13, 1980; minimum daily 3.5°C Jan. 5, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 800 microsiemens Sept. 29; minimum, 236 microsiemens May 18.
pH: Maximum, 9.1 units Aug. 2; minimum, 7.1 units Apr. 6.
WATER TEMPERATURE: Maximum, 34.5°C July 30, 31, Aug. 1, 2.
DISSOLVED OXYGEN: Maximum, 13.3 mg/L Aug. 1; minimum, 0.0 mg/L Aug. 6, 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
NOV 13...	0800	1400	581	7.40	18.0	17	5.5	58	9.0	1000	4800	140
JAN 29...	0830	1440	768	7.60	10.0	--	7.9	70	10	200	170	170
APR 15...	1015	6800	381	7.40	19.0	--	6.1	66	1.2	440	590	130
JUN 17...	0945	14300	324	7.80	26.0	50	6.4	79	2.1	380	2500	110
JUL 22...	1000	1260	506	7.80	27.0	--	5.3	67	3.4	K180	K520	140
SEP 09...	0945	2420	472	7.60	26.0	300	4.7	58	4.3	250	900	130

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
NOV 13...	5	49	4.1	54	2	7.5	135	58	50	0.8	9.0	350
JAN 29...	16	59	5.7	80	3	2.5	155	87	76	1.1	5.3	461
APR 15...	27	48	3.3	22	0.9	4.9	107	47	18	0.4	4.7	227
JUN 17...	11	38	3.9	19	0.8	5.1	100	30	16	0.3	4.6	186
JUL 22...	16	48	4.2	35	1	5.8	121	43	29	0.6	6.0	275
SEP 09...	24	46	3.8	40	2	7.3	107	62	36	0.6	8.2	332

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)
NOV 13...	330	3.92	0.68	4.60	1.20	1.20	0.9	2.1	2.60	2.70	2.20	6.7
JAN 29...	430	6.28	0.62	6.90	2.30	2.30	1.3	3.6	3.30	3.20	3.20	9.8
APR 15...	210	1.15	0.15	1.30	0.19	0.16	1.3	1.5	0.49	0.29	0.25	0.77
JUN 17...	180	0.62	0.03	0.65	0.09	0.10	0.81	0.9	0.21	0.16	0.15	0.46
JUL 22...	250	2.34	0.16	2.50	0.19	0.15	1.1	1.3	0.81	0.64	0.64	2.0
SEP 09...	270	2.64	0.36	3.00	0.07	0.06	1.3	1.4	1.30	1.20	1.10	3.4

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
NOV 13...	206	779	99	40	3	48	<0.5	<1	2	<3	5	49
JAN 29...	13	51	95	10	2	46	<0.5	<1	1	<3	1	20
APR 15...	415	7620	98	30	2	47	1	1	<1	<3	4	18
JUN 17...	101	3900	99	--	--	--	--	--	--	--	--	--
JUL 22...	274	932	99	--	--	--	--	--	--	--	--	--
SEP 09...	300	1960	99	--	--	--	--	--	--	--	--	--

DATE	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
NOV 13...	2	9	5	<0.1	10	13	<1	<1	380	<6	30
JAN 29...	3	15	40	0.1	<10	8	<1	5	530	<6	21
APR 15...	1	7	<1	0.4	<10	7	<1	<1	430	<6	16
JUN 17...	--	--	--	--	--	--	--	--	--	--	--
JUL 22...	--	--	--	--	--	--	--	--	--	--	--
SEP 09...	--	--	--	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR APRIL 1986 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
APR. 1986	143283	420	241	93400	25	9760	52	20200	130
MAY 1986	291730	360	208	164000	20	15800	44	34900	120
JUNE 1986	412750	375	216	241000	21	23600	46	51500	130
JULY 1986	128200	392	226	78100	22	7750	48	16700	130
AUG. 1986	33266	561	319	28600	40	3550	71	6380	150
SEPT 1986	54837	469	268	39700	30	4440	59	8680	140
TOTAL	1064067	**	**	644000	**	64800	**	138000	**
WTD.AVG.	5879	390	224	**	22	**	48	**	130

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
MONTH												

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1							---	---	---	487	310	413
2							---	---	---	465	317	368
3							777	762	768	437	360	385
4							771	758	764	435	384	402
5							762	515	661	450	404	421
6							746	467	635	490	453	479
7							472	374	410	503	489	496
8							423	367	395	515	253	466
9							389	363	372	413	250	318
10							421	390	407	422	252	300
11							450	424	440	317	258	287
12							498	294	427	339	311	326
13							445	327	412	363	333	349
14							505	354	421	378	364	371
15							399	350	385	444	380	418
16							415	400	409	429	413	422
17							441	416	430	412	240	307
18							442	432	437	275	236	251
19							455	421	438	300	277	286
20							427	289	332	321	301	309
21							419	312	380	349	315	329
22							375	317	347	370	350	360
23							377	345	360	414	370	389
24							409	376	389	410	396	404
25							506	413	459	399	394	390
26							523	479	496	403	368	387
27							482	470	475	429	328	366
28							471	463	468	385	339	357
29							493	467	474	493	388	431
30							523	489	510	663	497	592
31							---	---	---	685	666	680
MONTH							777	289	461	685	236	389

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	680	659	670	390	359	378	675	637	650	---	---	640
2	658	590	629	389	353	375	660	636	643	---	---	654
3	587	469	513	390	355	376	663	635	553	---	---	602
4	474	297	372	381	355	372	729	657	667	715	317	433
5	312	285	303	380	357	368	676	642	655	371	331	359
6	325	276	306	380	348	364	679	424	568	385	366	373
7	318	266	290	388	366	378	503	388	435	430	374	403
8	343	320	331	414	382	399	613	392	412	484	401	439
9	383	347	367	415	390	400	441	417	428	502	418	458
10	393	379	385	393	386	390	495	441	469	421	362	404
11	398	348	382	392	384	388	558	488	508	480	356	414
12	368	340	354	390	385	388	655	536	601	559	484	525
13	377	366	371	388	375	380	663	345	519	486	397	432
14	393	378	386	379	366	372	469	359	417	400	385	393
15	384	374	377	372	362	368	462	421	442	408	392	397
16	381	351	373	375	362	366	547	446	462	442	409	432
17	367	321	339	382	376	378	487	447	467	466	434	444
18	371	349	360	389	380	383	569	491	526	479	422	467
19	350	346	348	410	389	396	633	572	600	495	411	455
20	379	346	367	415	395	404	700	619	637	509	497	503
21	387	376	381	437	416	424	711	658	669	566	510	537
22	391	383	386	506	431	442	676	648	659	591	567	580
23	393	386	388	532	458	489	677	643	654	613	582	597
24	392	381	387	567	520	544	653	612	640	644	616	629
25	387	378	384	544	448	493	655	317	524	672	645	660
26	388	374	381	519	435	474	744	321	588	702	660	676
27	389	363	381	563	445	500	732	683	707	732	653	680
28	386	357	377	576	496	529	778	703	724	759	673	699
29	389	355	377	557	492	524	732	351	560	800	686	727
30	399	365	385	615	560	592	697	564	624	734	691	708
31	---	---	---	657	617	632	---	---	630	---	---	---
MONTH	680	266	388	657	348	428	778	317	572	800	317	524

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
MONTH												

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1							---	---	---	7.70	7.40	7.60
2							---	---	---	7.60	7.50	7.60
3							7.30	7.30	7.30	7.50	7.40	7.50
4							7.40	7.30	7.30	7.50	7.40	7.50
5							7.40	7.30	7.30	7.60	7.50	7.50
6							7.30	7.10	7.20	7.60	7.50	7.50
7							7.30	7.20	7.30	7.60	7.50	7.50
8							7.30	7.20	7.30	7.80	7.40	7.60
9							7.40	7.30	7.40	7.70	7.40	7.50
10							7.40	7.40	7.40	7.60	7.40	7.50
11							7.50	7.40	7.40	7.50	7.40	7.50
12							7.70	7.50	7.50	7.40	7.40	7.40
13							7.60	7.40	7.50	7.40	7.40	7.40
14							7.50	7.30	7.40	7.40	7.40	7.40
15							7.50	7.40	7.40	7.40	7.40	7.40
16							7.60	7.50	7.50	7.50	7.40	7.50
17							7.60	7.50	7.50	7.50	7.40	7.50
18							7.60	7.50	7.50	7.50	7.40	7.50
19							7.60	7.50	7.50	7.50	7.40	7.40
20							7.70	7.50	7.60	7.40	7.30	7.40
21							7.60	7.50	7.50	7.50	7.40	7.50
22							7.60	7.50	7.50	7.50	7.50	7.50
23							7.50	7.50	7.50	7.50	7.40	7.50
24							7.60	7.50	7.50	7.60	7.40	7.50
25							7.60	7.50	7.50	7.60	7.50	7.60
26							7.60	7.50	7.50	7.60	7.50	7.60
27							7.60	7.50	7.60	7.60	7.40	7.50
28							7.60	7.50	7.60	7.40	7.40	7.40
29							7.60	7.60	7.60	7.40	7.40	7.40
30							7.60	7.40	7.50	7.50	7.40	7.40
31							---	---	---	7.60	7.50	7.60
MONTH							7.70	7.10	7.45	7.80	7.30	7.49

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.60	7.60	7.60	7.90	7.80	7.90	9.00	8.60	8.80	8.30	8.00	8.20
2	7.60	7.50	7.60	7.90	7.80	7.90	9.10	8.70	8.90	8.20	7.90	8.00
3	7.60	7.50	7.60	7.90	7.80	7.90	8.90	8.30	8.60	8.00	7.40	7.70
4	7.80	7.50	7.70	7.80	7.80	7.80	8.40	8.20	8.30	7.60	7.30	7.50
5	7.90	7.80	7.90	7.90	7.80	7.80	8.30	7.60	8.00	7.60	7.50	7.50
6	7.90	7.80	7.90	7.90	7.70	7.80	7.60	7.30	7.40	7.60	7.50	7.50
7	7.80	7.70	7.80	7.90	7.80	7.90	7.60	7.50	7.60	7.60	7.50	7.60
8	7.80	7.70	7.80	7.90	7.80	7.90	7.70	7.60	7.60	7.70	7.50	7.60
9	7.80	7.70	7.70	8.00	7.90	7.90	7.90	7.70	7.80	7.70	7.50	7.60
10	7.90	7.80	7.80	8.00	7.90	7.90	8.00	7.90	7.90	7.80	7.70	7.80
11	7.80	7.80	7.80	7.90	7.90	7.90	8.00	7.90	7.90	7.90	7.80	7.80
12	7.80	7.60	7.70	7.90	7.80	7.90	7.90	7.40	7.70	7.90	7.70	7.80
13	7.80	7.70	7.80	7.90	7.80	7.80	7.50	7.30	7.40	7.90	7.80	7.80
14	7.80	7.70	7.70	7.90	7.80	7.80	7.60	7.50	7.60	7.90	7.80	7.80
15	7.90	7.80	7.80	7.90	7.80	7.90	7.70	7.50	7.60	7.90	7.80	7.90
16	7.90	7.80	7.90	7.90	7.90	7.90	7.70	7.70	7.70	7.90	7.90	7.90
17	7.80	7.80	7.80	7.90	7.80	7.80	8.00	7.70	7.90	8.00	7.90	8.00
18	7.80	7.70	7.70	7.90	7.80	7.80	8.30	7.90	8.10	8.00	7.90	7.90
19	7.70	7.70	7.70	7.80	7.80	7.80	8.80	8.10	8.40	8.00	7.90	7.90
20	7.80	7.70	7.80	7.80	7.80	7.80	8.80	8.40	8.60	8.30	8.00	8.10
21	7.80	7.80	7.80	7.80	7.80	7.80	8.80	8.50	8.70	8.20	8.10	8.10
22	7.90	7.80	7.80	7.80	7.80	7.80	8.80	8.40	8.60	8.10	8.10	8.10
23	8.00	7.90	7.90	8.00	7.80	7.80	8.70	8.50	8.60	8.40	8.00	8.20
24	8.00	7.90	8.00	7.80	7.50	7.70	8.50	8.20	8.40	8.50	7.90	8.30
25	8.00	7.90	7.90	7.60	7.50	7.50	8.50	8.00	8.20	8.50	8.10	8.30
26	8.00	7.90	7.90	7.70	7.60	7.70	8.40	8.00	8.20	8.50	8.20	8.40
27	7.90	7.80	7.90	7.90	7.60	7.80	8.20	7.90	8.00	8.70	8.20	8.50
28	7.90	7.80	7.90	8.10	7.80	7.90	8.40	7.80	7.90	8.60	8.40	8.50
29	7.90	7.80	7.90	8.40	7.90	8.10	8.30	7.80	8.10	8.60	8.30	8.40
30	7.90	7.80	7.80	8.70	8.20	8.50	8.30	7.90	8.10	8.60	8.20	8.40
31	---	---	---	8.90	8.50	8.70	8.40	8.00	8.20	---	---	---
MONTH	8.00	7.50	7.80	8.90	7.50	7.88	9.10	7.30	8.09	8.70	7.30	7.97

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
MONTH												

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1							---	---	---	22.0	21.0	21.5
2							---	---	---	21.5	21.0	21.0
3							21.5	21.0	21.0	21.5	21.0	21.0
4							22.5	21.0	21.5	22.5	21.5	22.0
5							23.0	20.0	21.5	22.5	22.0	22.0
6							23.0	20.5	22.0	23.5	22.0	22.5
7							21.5	20.5	20.5	23.5	22.5	23.0
8							21.5	21.0	21.0	24.0	22.0	23.0
9							21.5	21.5	21.5	23.0	22.0	22.5
10							21.5	21.0	21.5	23.0	22.0	22.0
11							21.5	19.5	20.5	23.5	21.5	22.5
12							19.5	19.0	19.5	24.0	22.5	23.5
13							20.0	19.5	20.0	24.5	23.0	24.0
14							20.0	18.0	19.5	24.5	24.5	24.5
15							19.5	19.0	19.0	25.0	24.5	24.5
16							20.0	19.5	19.5	24.5	23.5	23.5
17							20.0	19.0	19.5	23.0	22.0	22.5
18							19.5	19.0	19.5	22.0	21.0	21.5
19							19.5	19.0	19.5	21.5	20.5	21.0
20							19.5	19.0	19.5	22.0	21.0	22.0
21							19.5	18.5	19.0	23.0	21.5	22.0
22							19.5	18.5	19.0	23.5	22.5	23.0
23							19.5	19.0	19.0	24.5	23.0	23.5
24							21.0	19.5	20.0	24.0	24.0	24.0
25							21.5	20.5	21.0	24.0	23.5	23.5
26							22.0	21.0	21.5	23.5	22.5	23.0
27							21.5	21.0	21.5	23.0	21.0	22.0
28							22.0	20.5	21.5	23.0	21.5	22.5
29							22.0	21.5	21.5	25.0	23.0	24.0
30							22.5	21.5	22.0	25.0	24.0	24.5
31							---	---	---	24.5	24.0	24.5
MONTH							23.0	18.0	20.5	25.0	20.5	23.0

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	24.5	24.0	24.0	28.5	28.0	28.0	34.5	27.5	30.5	28.5	27.5	28.0
2	24.5	23.5	24.0	28.0	27.5	28.0	34.5	27.0	30.5	28.0	26.5	27.5
3	24.0	23.5	24.0	27.5	27.0	27.0	31.5	25.5	28.0	28.5	27.5	28.0
4	25.0	24.0	24.5	27.5	26.5	27.0	32.5	25.5	28.5	27.5	25.5	26.5
5	25.0	24.5	24.5	28.0	27.5	27.5	31.5	25.0	29.0	26.5	26.0	26.5
6	25.0	24.5	25.0	28.0	27.5	28.0	30.5	29.0	29.5	26.5	26.0	26.0
7	25.5	24.5	25.0	28.5	27.5	28.0	29.5	28.5	29.0	26.0	25.5	26.0
8	26.0	25.0	25.5	29.0	28.0	28.5	32.0	27.0	29.0	27.0	25.5	26.0
9	27.0	26.0	26.5	29.0	28.5	28.5	32.5	26.5	29.5	27.0	26.0	26.5
10	28.0	26.5	27.0	29.0	28.5	29.0	33.0	26.5	28.5	27.0	26.5	27.0
11	27.5	26.5	27.0	29.0	28.5	28.5	29.0	25.0	27.0	27.5	26.5	27.0
12	27.5	25.5	26.5	28.5	28.0	28.5	30.0	25.5	28.5	27.5	26.5	27.0
13	27.5	26.5	27.0	28.5	28.0	28.0	29.5	28.5	29.0	27.0	26.5	27.0
14	28.0	26.5	27.0	28.5	27.5	28.0	29.5	28.0	28.5	26.5	26.5	26.5
15	27.5	27.0	27.5	28.5	27.5	28.0	32.0	26.5	29.0	27.0	26.5	27.0
16	27.5	26.5	27.0	28.5	27.5	28.0	33.0	26.5	29.5	28.0	26.5	27.0
17	26.5	26.0	26.0	28.5	28.0	28.0	33.0	26.5	29.5	28.0	27.0	27.5
18	27.0	26.0	26.5	29.0	28.0	28.5	33.5	26.5	29.0	28.5	27.5	28.0
19	27.5	26.5	27.0	29.5	28.0	29.0	33.0	25.5	29.0	28.0	27.0	27.5
20	28.0	27.0	27.5	30.0	28.0	29.0	33.5	26.5	29.5	28.5	27.5	28.0
21	28.0	27.5	27.5	31.0	29.5	30.0	32.5	27.0	29.0	28.0	27.5	27.5
22	28.5	27.5	28.0	30.0	27.5	29.0	32.0	26.0	28.5	28.0	27.0	27.5
23	28.5	28.0	28.0	31.5	29.0	30.5	31.5	25.0	27.0	28.0	27.0	27.5
24	28.5	28.0	28.0	31.5	30.0	31.0	28.0	25.5	26.5	28.0	26.0	27.0
25	28.5	28.0	28.0	31.0	29.5	30.5	31.5	25.0	27.5	26.5	26.0	26.5
26	28.5	27.5	28.0	33.0	28.5	30.5	29.0	24.5	27.5	27.0	26.0	26.5
27	28.5	27.5	28.0	33.5	28.0	30.5	29.5	28.0	28.5	27.5	26.0	26.5
28	28.5	27.5	28.0	33.5	27.5	30.0	29.0	28.0	28.5	27.5	26.5	27.0
29	28.5	28.0	28.0	34.0	26.5	30.0	29.5	28.0	28.5	27.0	26.0	26.5
30	28.5	28.0	28.0	34.5	27.0	30.5	28.5	27.5	28.0	27.0	26.0	26.5
31	---	---	---	34.5	27.5	30.5	29.0	27.0	28.0	---	---	---
MONTH	28.5	23.5	26.5	34.5	26.5	29.0	34.5	24.5	28.5	28.5	25.5	27.0

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
MONTH												

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1							---	---	---	7.4	4.6	6.1
2							---	---	---	6.9	4.9	6.2
3							8.5	6.3	7.5	6.2	4.1	5.1
4							8.7	4.9	6.4	5.6	4.8	5.2
5							6.6	4.8	5.5	5.7	5.3	5.5
6							4.8	1.0	3.7	5.4	5.0	5.1
7							3.8	3.3	3.7	6.0	5.5	5.7
8							4.6	2.6	3.5	7.8	5.2	5.9
9							5.1	4.6	5.0	7.9	5.5	6.9
10							5.0	4.9	4.9	7.3	5.3	6.5
11							5.4	5.0	5.2	6.9	5.2	6.3
12							8.0	5.3	5.9	5.3	5.0	5.1
13							7.7	5.9	6.5	5.2	4.9	5.0
14							5.8	3.3	4.6	5.0	4.6	4.8
15							6.3	4.6	5.6	5.3	4.6	4.9
16							6.6	6.3	6.4	6.1	5.3	5.9
17							5.8	6.5	6.7	7.5	6.2	7.0
18							6.8	6.5	6.6	7.4	6.3	7.0
19							6.9	6.1	6.3	6.2	5.5	5.9
20							7.9	5.9	7.5	---	---	---
21							6.6	4.8	5.8	---	---	---
22							6.1	5.4	5.7	---	---	---
23							5.8	5.4	5.7	---	---	---
24							6.2	5.8	6.0	---	---	---
25							6.2	5.2	5.7	---	---	---
26							5.8	5.3	5.4	---	---	---
27							6.0	5.5	5.7	---	---	---
28							6.0	5.5	5.7	5.7	5.4	5.5
29							5.9	5.5	5.7	5.5	5.0	5.2
30							5.5	3.8	4.8	5.7	4.8	5.0
31							---	---	---	6.4	5.8	6.1
MONTH							8.7	1.0	5.6	7.9	4.1	5.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	6.6	6.4	6.5	6.1	5.8	6.0	13.3	7.7	10.4	7.7	7.2	7.5
2	6.5	5.7	6.3	6.2	6.0	6.1	13.0	8.1	10.5	7.6	7.3	7.5
3	5.9	5.5	5.7	6.2	6.0	6.1	10.4	6.0	7.7	7.5	1.6	4.8
4	5.7	5.3	5.5	6.2	5.5	5.9	7.5	6.0	6.7	2.9	.7	1.9
5	5.5	5.5	5.5	6.1	5.8	5.9	7.1	3.1	5.9	4.1	3.0	3.7
6	6.2	5.1	5.6	6.1	5.4	5.9	2.6	.0	.7	4.5	4.1	4.4
7	6.0	4.9	5.4	6.2	5.8	6.1	2.8	1.9	2.2	4.7	4.2	4.5
8	4.8	4.6	4.7	5.7	5.0	5.1	4.4	2.8	3.7	4.6	3.1	4.1
9	4.7	4.4	4.5	5.8	5.1	5.5	5.8	4.5	5.1	4.8	3.6	4.5
10	5.4	4.6	4.9	5.8	5.5	5.6	7.2	5.7	6.4	5.3	4.8	5.1
11	5.6	5.0	5.2	5.7	5.3	5.5	6.9	5.9	6.4	5.4	5.2	5.3
12	5.6	5.2	5.4	5.7	5.3	5.5	6.3	1.6	4.6	5.4	3.9	4.6
13	5.6	5.2	5.4	5.9	5.3	5.5	2.2	.0	1.0	5.9	5.0	5.4
14	5.7	5.2	5.4	6.2	5.5	5.8	3.5	2.3	3.0	6.1	5.6	5.8
15	5.9	5.6	5.7	6.3	5.7	6.0	4.4	3.2	3.8	6.3	5.7	6.0
16	6.1	5.7	5.8	6.4	6.0	6.1	5.1	4.4	4.7	6.2	5.9	6.0
17	6.3	6.1	6.2	6.1	5.8	5.9	7.1	5.1	5.9	6.5	5.9	6.2
18	6.1	5.7	5.8	6.3	5.7	5.9	9.3	6.6	7.7	6.2	5.3	5.7
19	5.9	5.8	5.8	5.9	5.7	5.8	12.2	7.0	9.4	6.1	5.4	5.8
20	5.9	5.6	5.7	5.9	5.7	5.8	12.1	7.9	10.0	7.7	6.0	6.7
21	6.0	5.8	5.8	6.0	5.5	5.8	11.6	8.1	9.8	7.1	6.5	6.7
22	6.2	5.9	6.0	6.0	5.3	5.7	11.8	7.4	9.5	6.8	6.3	6.5
23	6.4	6.1	6.2	5.9	4.9	5.2	11.0	7.7	9.3	8.5	6.2	7.2
24	6.4	6.0	6.2	4.8	2.3	3.5	9.5	6.9	8.3	9.5	6.6	8.0
25	6.4	6.1	6.2	2.6	1.5	2.1	10.5	6.9	8.4	9.2	6.8	8.2
26	6.3	5.9	6.1	4.1	2.9	3.7	8.9	5.9	7.7	9.5	7.1	8.3
27	6.1	5.6	5.9	6.3	3.5	4.9	8.6	6.1	7.3	10.4	7.2	8.7
28	5.9	5.7	5.8	6.9	5.0	5.8	7.6	5.6	6.2	9.9	7.6	8.7
29	6.0	5.7	5.9	8.8	5.8	7.3	8.7	5.9	7.5	9.4	7.2	8.3
30	5.9	5.7	5.8	11.2	6.9	8.9	8.6	6.1	7.4	9.2	7.3	8.4
31	---	---	---	12.1	7.5	9.7	9.2	6.6	7.5	---	---	---
MONTH	6.6	4.4	5.7	12.1	1.5	5.8	13.3	.0	6.6	10.4	.7	6.2

08062800 CEDAR CREEK NEAR KEMP, TX

LOCATION.--Lat 32°30'18", long 96°06'57", Kaufman County, Hydrologic Unit 12030107, on left bank at downstream side of highway embankment at left end of bridge on Farm Road 1836, 3.6 mi upstream from Williams Creek, 8.1 mi northeast of Kemp, and 51.5 mi upstream from mouth.

DRAINAGE AREA.--189 mi².

PERIOD OF RECORD.--January 1963 to current year.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 341.48 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1-17, Nov. 12 to Dec. 11, and May 31 to June 8. Records good except those below 10 ft³/s, which are fair, and estimated daily discharges, which are poor. Flow is affected at times by storage in Terrell Municipal Lake (capacity, 8,300 acre-ft). The city of Terrell diverts water from Terrell Municipal Lake (above this station) for municipal use and returns sewage effluent to a tributary of Kings Creek that enters the creek downstream from this station. Flow is affected at times by discharge from the flood-detention pools of 20 floodwater-retarding structures with a combined detention capacity of 18,880 acre-ft. These structures control runoff from 55.9 mi².

AVERAGE DISCHARGE.--23 years (water years 1964-86), 114 ft³/s (82,590 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft³/s Apr. 26, 1966 (gage height, 16.8 ft); no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1889, about 20.5 ft in 1945, from information by State Department of Highways and Public Transporation and local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 20	1400	3,520	13.35	May 11	1900	2,000	12.45
Dec. 11	1930	*10,900	*15.22	May 19	0830	2,060	12.51
Feb. 4	0500	5,980	14.35	June 7	a2100	2,790	b13.21
Feb. 4	1230	3,520	13.56	June 12	2100	2,490	13.04
Apr. 6	1230	2,100	12.54				

a Approximately.
b From crest-stage gage.

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	120	225	22	3.9	12	4.5	21	200	10	.01	.03
2	.32	60	200	21	3.7	11	3.5	56	1430	8.1	.00	15
3	.28	42	160	19	862	9.4	3.8	82	1720	7.8	.82	12
4	.34	30	125	17	4230	7.2	6.5	38	562	6.7	.06	3.9
5	.31	24	100	15	2620	6.7	649	25	123	8.0	.02	1.2
6	.29	20	81	15	2410	6.2	1750	19	647	6.1	.00	74
7	.33	21	70	14	2410	6.1	247	16	2410	3.7	.00	78
8	.40	18	60	12	1820	5.4	65	12	2090	2.1	.00	71
9	.49	17	50	9.5	961	4.1	44	48	515	1.4	.00	42
10	.49	16	530	9.6	839	3.5	31	203	194	.84	.00	16
11	.52	16	9500	11	742	4.5	24	1550	435	.83	.00	6.4
12	.53	17	5340	8.9	208	3.8	399	1000	1910	14	.01	2.5
13	.49	19	3000	7.9	113	3.6	568	102	1900	8.7	.00	.77
14	.52	14	2440	6.6	83	3.4	84	46	492	2.8	.01	.41
15	.51	300	2080	6.0	67	3.3	35	32	109	.98	.02	.21
16	.50	900	1700	5.6	57	3.2	23	24	247	.49	.02	.16
17	.69	300	803	5.1	47	3.1	18	176	932	.33	.01	.14
18	.93	220	168	6.2	40	3.0	15	1580	649	.23	.01	.09
19	969	180	99	7.0	32	6.0	16	1680	126	.15	.00	.05
20	2920	250	75	7.1	32	5.5	262	328	111	.09	.00	.04
21	2690	200	61	7.0	29	4.6	487	81	94	.08	.00	.02
22	1850	150	53	6.0	27	4.3	90	54	51	.13	.00	.01
23	597	130	48	5.0	24	4.0	44	40	35	110	.00	.00
24	236	200	44	4.1	21	3.8	31	33	35	48	.00	.00
25	162	310	40	3.3	19	3.6	24	29	91	34	.01	.00
26	97	270	38	3.0	16	3.5	21	27	61	20	.02	.00
27	49	1200	34	2.4	16	3.3	18	26	29	8.2	.02	.00
28	34	2800	31	2.3	14	4.3	17	27	19	2.4	.02	.02
29	366	1000	29	4.7	---	3.6	16	23	16	1.1	.01	.00
30	688	270	27	5.0	---	3.4	15	20	13	.33	.01	.00
31	244	---	24	4.9	---	4.1	---	18	---	.17	.00	---
TOTAL	10910.64	9114	27235	273.2	17746.6	153.5	5011.3	7416	17246	307.75	1.08	323.95
MEAN	352	304	879	8.81	634	4.95	167	239	575	9.93	.03	10.8
MAX	2920	2000	9500	22	4230	12	1750	1680	2410	110	.82	78
MIN	.28	14	24	2.3	3.7	3.0	3.5	12	13	.08	.00	.00
AC-FT	21640	18080	54020	542	35200	304	9940	14710	34210	610	2.1	643

CAL YR 1985 TOTAL 60589.42 MEAN 166 MAX 9500 MIN .00 AC-FT 120200
WTR YR 1986 TOTAL 95739.02 MEAN 262 MAX 9500 MIN .00 AC-FT 189900

08062900 KINGS CREEK NEAR KAUFMAN, TX.

LOCATION--Lat 32°30'48", long 96°19'44", Kaufman County, Hydrologic Unit 12030107, on left bank at downstream side of bridge on Farm Road 1388, 3.6 mi upstream from Big Cottonwood Creek, 4.8 mi downstream from Big Brush Creek, and 5.3 mi south of Kaufman.

DRAINAGE AREA.--233 mi².

PERIOD OF RECORD.--January 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 343.24 ft above State Department of Highways and Public Transportation datum.

REMARKS.--No estimated daily discharges. Records fair. During the year, the cities of Terrell and Kaufman returned sewage effluent (amounts unknown) into the creek above this station. Flow is affected at times by dishcarge from the flood-detention pools of 28 floodwater-retarding structures with a combined detention capacity of 14,560 acre-ft. These structures control runoff from 46.8 mi² in the Cedar Creek drainage basins. Gage-height telemeter is at station.

AVERAGE DISCHARGE.--23 years (water years 1964-86), 155 ft³/s (112,300 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,200 ft³/s Apr. 19, 1976 (gage height, 26.19 ft), from rating curve extended above 50,000 ft³/s; no flow at times most years. Maximum stage since at least 1942, that of Apr. 19, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1949 reached a stage of 23.1 ft, from information by State Department of Highways and Public Transporation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3.000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 20	0200	6,260	19.35	Feb. 4	0730	6,540	19.45
Nov. 28	0800	3,200	18.00	Feb. 6	1600	5,000	18.87
Dec. 11	1130	*20,500	*22.10	May 19	0200	3,390	18.10

Minimum daily discharge, 0.66 ft³/s Sept. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	172	252	8.4	5.6	5.7	8.5	198	267	12	15	2.0
2	6.1	83	210	7.5	5.3	5.1	6.8	1040	1190	11	9.0	3.7
3	5.5	48	118	7.3	713	5.8	10	349	1480	28	7.0	10
4	7.0	32	93	8.7	5570	5.3	19	124	860	39	87	11
5	6.3	24	72	8.4	3110	5.3	311	65	506	26	39	8.8
6	5.8	19	63	7.5	4100	7.5	500	39	1710	14	14	125
7	6.9	16	55	7.1	2970	5.5	158	32	792	11	8.8	102
8	7.5	15	56	6.6	704	5.5	86	30	341	8.7	11	330
9	9.5	14	53	6.7	666	4.9	47	160	152	7.7	30	53
10	10	13	491	7.2	843	4.3	28	905	46	6.3	9.3	14
11	11	18	15300	6.2	393	4.8	17	1850	289	5.5	55	7.2
12	11	21	7550	5.8	194	6.1	357	421	513	4.8	15	3.3
13	11	25	2950	6.2	130	6.2	322	182	125	4.2	9.7	2.5
14	11	18	744	5.6	100	5.4	99	102	56	3.3	5.1	1.9
15	11	325	402	5.4	72	5.0	49	65	38	2.3	3.8	1.5
16	11	812	278	5.7	54	6.3	27	51	58	2.2	3.1	1.2
17	13	252	201	5.9	41	6.0	17	466	911	2.2	3.0	1.1
18	308	199	162	6.6	31	5.9	22	2530	987	4.2	2.5	.99
19	3840	155	136	6.2	29	6.9	104	2510	243	10	2.3	.88
20	5480	211	103	6.8	17	7.9	1260	424	349	10	2.2	.80
21	1660	104	73	5.8	12	8.3	474	219	188	9.3	2.2	.86
22	243	46	56	5.7	10	7.8	169	144	108	469	2.1	1.5
23	147	25	41	4.8	11	7.6	111	108	64	1420	2.2	1.1
24	101	150	31	4.0	9.4	6.4	77	87	45	632	2.2	.81
25	60	305	23	4.8	8.3	5.8	54	73	37	129	2.2	.76
26	38	262	19	4.1	6.8	6.4	41	88	33	67	1.9	.70
27	26	1410	18	3.8	6.3	6.7	36	94	24	42	2.0	.66
28	19	2970	15	3.8	6.4	7.7	34	54	19	32	2.6	.71
29	623	798	13	3.5	---	9.2	33	47	16	26	3.3	.82
30	834	238	12	4.2	---	9.2	32	41	14	23	2.6	1.1
31	402	---	10	5.3	---	9.0	---	39	---	19	2.1	---
TOTAL	13937.6	8780	29600	185.6	19818.1	199.5	4509.3	12547	11461	3080.7	357.2	689.89
MEAN	450	293	955	5.99	708	6.44	150	405	382	99.4	11.5	23.0
MAX	5480	2970	15300	8.7	5570	9.2	1260	2530	1710	1420	87	330
MIN	5.5	13	10	3.5	5.3	4.3	6.8	30	14	2.2	1.9	.66
AC-FT	27650	17420	58710	368	39310	396	8940	24890	22730	6110	709	1370

CAL YR 1985 TOTAL 97278.18 MEAN 267 MAX 15300 MIN .10 AC-FT 193000
WTR YR 1986 TOTAL 105165.89 MEAN 288 MAX 15300 MIN .66 AC-FT 208600

08063010 CEDAR CREEK RESERVOIR NEAR TRINIDAD, TX

LOCATION.--Lat 32°14'35", long 96°08'26", Henderson County, Hydrologic Unit 12030107, inside pumphouse on lower level, 1,000 ft north of spillway, 5.5 mi upstream from Joe B. Hogsett Dam on Cedar Creek, and 8.0 mi northwest of Trinidad.

DRAINAGE AREA.--1,007 mi^2.

PERIOD OF RECORD.--January 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 15, 1972, at unfinished pumphouse at same site and datum. May 16, 1972, to Sept. 8, 1975, at site 0.25 mi north and upstream from pumphouse at same datum.

REMARKS.--The reservoir is formed by a rolled earthfill dam 17,539 ft long. The spillway is located on the right bank 5.5 mi upstream from the dam and discharges into the Trinity River through a cut channel 2 mi long. Deliberate impoundment began July 2, 1965, and the dam was completed in February 1966. The spillway is 474 ft long and has eight 40- by 24-foot radial gates and two automatically operated 40- by 8.5-foot hinged gates. Low-flow releases may be made downstream through a 5.0-foot-diameter conduit through the dam. The dam is the property of Tarrant County Water Control and Improvement District No. 1 and was built for municipal and industrial supply and for recreational purposes. The area and capacity tables were based on a survey during the period 1940-58. Water is diverted from the reservoir for municipal and industrial uses by lakeside developments and by the cities of Arlington, Fort Worth, Mansfield, Kemp, Trinidad, and Mabank. Figures given herin represent total contents. Gage-height telemeter located at station. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	340.0	-
Top of radial gates...............................	325.0	785,100
Top of automatic gates............................	322.5	696,400
Top of conservation pool..........................	322.0	679,200
Crest of spillway (automatic gates)...............	314.0	441,000
Crest of spillway (radial gates)..................	302.0	197,800
Lowest gated outlet (invert)......................	263.5	430

COOPERATION.--Records of diversions provided by the Tarrant County Water Control and Improvement District No. 1. The area and capacity tables were provided by Freese and Nichols, Consulting Engineers, for Tarrant County Water Control and Improvement District No. 1.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 722,000 acre-ft June 4, 1973 (elevation, 323.24 ft); minimum since first appreciable storage in 1966, 332,900 acre-ft Mar. 19, 1967 (elevation, 309.42 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 694,700 acre-ft Dec. 11 at 0600 hours (elevation, 322.45 ft); minimum 582,600 acre-ft Oct. 11-18 (elevation, 319.00 ft).

Capacity table (elevation, in feet and contents, in acre-feet

319.0	582,600
321.0	646,000
323.0	713,500

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	591400	675600	680300	678600	668600	673900	660000	678900	680900	676200	659600	636000
2	590100	675600	678900	678600	668900	674600	657700	678600	682300	676900	658600	636000
3	588900	675200	678600	678600	688100	673900	657700	678900	683000	674300	659600	635100
4	589200	674600	679200	679200	686800	673600	659600	677900	680900	673300	659600	635100
5	587300	673300	678600	676900	680900	674300	679200	677600	680900	672300	657700	637000
6	585400	674300	677900	676200	680600	672900	679200	677200	682300	671300	656300	640900
7	584200	672900	677900	677600	681600	672600	679600	677200	685700	671300	655000	644100
8	582900	670900	677600	675900	678600	672600	678900	680300	682300	670300	654000	642800
9	583900	671300	677900	675900	679200	669900	679200	679200	684000	668900	652300	643100
10	582900	673600	688500	675900	680900	672600	678200	683000	684000	666900	652700	642200
11	582600	675600	691600	675200	678900	672900	678200	681300	684700	665000	653000	642500
12	582600	675600	684700	674900	677600	672600	677900	680600	686100	664600	652300	641200
13	582900	675900	683700	674600	677600	672600	680900	680300	685700	664000	652300	640600
14	584800	676200	682000	674300	678900	670900	679600	676900	686400	662600	650700	638900
15	582600	678900	679200	673600	677600	670900	678900	679600	685100	662300	650000	638900
16	582600	679200	677900	674600	679200	669600	677200	679200	684400	660300	649400	639300
17	582600	680600	678200	674300	679900	667600	677600	684400	683700	659300	648400	637700
18	593600	680300	679600	674600	679600	669900	675900	679900	684000	658600	648000	636700
19	623800	680900	679900	674300	679600	669900	677600	681300	681600	658000	646700	637000
20	640900	677600	679600	673600	680900	667300	680900	682000	682300	657700	646000	636700
21	652000	676900	679900	675600	679200	666000	678600	680600	682700	658000	644700	636400
22	656300	675900	680600	673600	678200	663600	677600	679900	682700	665000	643500	636400
23	658000	676200	680900	672300	677600	664300	676600	680600	682700	666300	642500	635100
24	659300	680900	683300	672900	677600	662600	676200	683000	683000	667600	641800	635100
25	659600	679600	679600	673900	676600	662300	675900	681600	682700	666900	641200	633500
26	659600	679900	679600	673600	677200	662600	677600	680600	681600	666300	640200	633200
27	660000	677900	679900	669900	679200	662600	677200	680900	679200	665000	639600	633200
28	665300	677900	679600	669600	674900	661600	675600	679900	678200	664300	639300	631500
29	669300	680600	679200	669900	---	660600	675900	679200	677900	662600	638000	631500
30	673300	679200	679900	668900	---	659600	678900	679200	675600	661300	636400	631200
31	675200	---	679200	669300	---	659300	---	679900	---	660600	635400	---
MAX	675200	680900	691600	679200	688100	674600	680900	684400	686400	676900	659600	644100
MIN	582600	670900	677600	668900	668600	659300	657700	676900	675600	657700	635400	631200
(†)	321.88	322.00	322.00	321.70	321.87	321.40	321.99	322.02	321.89	321.44	320.67	320.54
(‡)	+82600	+4000	0	+15200	+30200	-3300	+6700	-4700	-17600	-17200	-29000	-21200

CAL YR 1985 MAX 691600 MIN 582600 (‡) +45700
WTR YR 1986 MAX 691600 MIN 582600 (‡) +38600

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

08063050 NAVARRO MILLS LAKE NEAR DAWSON, TX

LOCATION.--Lat 31°57'27", long 96°41'21", Navarro County, Hydrologic Unit 12030108, in left abutment of spillway of Navarro Mills Dam on Richland Creek, 1.7 mi upstream from bridge on State Highway 31, 3.0 mi upstream from St. Louis Southwestern Railway Lines bridge, 4.2 mi upstream from Post Oak Creek, 4.6 mi north of Dawson, and 63.9 mi upstream from mouth.

DRAINAGE AREA.--320 mi².

PERIOD OF RECORD.--August 1962 to current year. Prior to October 1970, published as Navarro Mills Reservoir.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 8, 1962, nonrecording gage in low-water channel at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 7,570 ft long, including a 240-foot off-channel gated spillway with six 40.0- by 29.0-foot tainter gates. From Aug. 27, 1962, to Mar. 14, 1963, lake was operated as a detention basin only. Deliberate impoundment began Mar. 15, 1963, and dam was completed in September 1963. Low-flow outlet works consist of two 36-inch-diameter gate-controlled conduits. Lake was built for flood control and water conservation. Capacity table prior to September 1976 is based on survey made in February 1956 by U.S. Army Corps of Engineers. Capacity table after Aug. 31, 1976, is based on a sedimentation survey made in September 1972. Flow is affected at times by discharge from the flood-detention pools of 51 floodwater-retarding structures with a combined detention capacity of 26,160 acre-ft. These structures control runoff from 86.9 mi² in the Richland Creek drainage basin. An unknown amount of water is diverted for municipal and industrial uses. Gage-height telemeter at station. Figures given herein represent total contents. Data regarding dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	457.0	-
Design flood..	451.9	329,500
Top of gates (top of flood-control storage pool).....................	443.0	206,200
Top of conservation pool..	424.5	56,960
Crest of spillway..	414.0	18,840
Lowest gated outlet (invert)...	400.0	1,150

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 183,300 acre-ft May 18, 1968 (elevation, 440.36 ft); minimum since initial filling in May 1965, 32,490 acre-ft Dec. 28, 1978 (elevation, 418.89 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 95,540 acre-ft June 18 at 1400 hours (elevation, 430.88 ft); minimum daily, 45,770 acre-ft Oct. 9 at 0400 hours (elevation, 422.17 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

422.0	45,020	426.0	64,810	430.0	89,340
424.0	54,460	428.0	76,310	432.0	103,800

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46440	72350	63200	59360	57320	56910	57120	57930	62610	66510	55550	54210
2	46440	70840	62080	58590	57370	56960	57060	58540	64600	65190	55400	54310
3	46400	69420	60720	58030	71540	57120	57370	58590	66790	64980	55600	54260
4	46310	67950	59470	57470	77850	57220	57370	58540	67230	94220	55550	54160
5	46170	66510	57720	56910	82170	57220	57370	58590	74250	63410	55400	54760
6	46040	65140	57620	56710	84400	57220	57420	58540	80820	62720	55250	55050
7	45950	63680	57670	56760	85260	57220	57420	58440	82820	62560	55100	55100
8	45900	62350	57620	56760	85860	57170	57370	58640	84000	61820	54960	55100
9	45860	60980	57570	56710	86340	57320	57520	58800	84730	61030	54860	55050
10	45950	59990	59000	56860	86940	57370	57670	59990	85130	60300	54710	54900
11	46080	58640	72120	56910	87150	57470	57060	60300	91350	59520	55050	54810
12	46080	57780	75090	56960	87280	57420	56710	59930	93470	58640	55500	54710
13	46040	57570	76740	56960	86340	57520	56660	59210	94110	57930	55500	54560
14	46350	57570	77790	56960	84130	57520	56510	58490	94460	57520	55500	54560
15	46350	57880	78410	57010	82040	57520	56360	57780	94610	57420	55450	54510
16	46310	57930	78220	57060	80110	57520	56310	57470	94750	57320	55300	54410
17	46310	57980	77170	57220	77970	57520	56210	63950	95250	57120	55250	54360
18	47120	58080	76120	57320	75390	57670	56210	68850	94820	57010	55100	54210
19	72180	58080	74910	57370	72530	57570	57010	69530	93540	56910	55050	54210
20	77850	57930	73710	57370	69700	57470	57010	70040	91210	56760	54900	54360
21	79100	57880	72590	57420	66680	57370	56910	70390	88780	56610	54860	54460
22	79990	57880	71480	57320	63900	57320	56760	69530	86470	56710	54710	54510
23	80620	57930	70160	57320	61190	57270	56660	68180	84130	56810	54710	54360
24	80820	59470	68960	57470	59060	57270	56610	66900	81720	56710	54660	54360
25	80430	59730	67730	57420	58030	57220	56560	66900	79420	56560	54560	54160
26	79920	59990	66450	57370	57170	57220	56460	66840	77100	56460	54410	54060
27	79100	63360	65300	57320	56960	57270	56510	66180	74790	56360	54360	53960
28	77910	63900	64110	57320	56960	57270	56460	64810	72530	56160	54310	53910
29	76920	64110	62880	57220	---	57220	56360	63470	70210	56000	54260	53770
30	75390	64060	61870	57270	---	57170	56710	62290	68230	55900	54160	53670
31	73770	---	60560	57320	---	57120	---	61500	---	55700	54010	---
MAX	80820	72350	78410	59360	87280	57670	57670	70390	95250	94220	55600	55100
MIN	45860	57570	57570	56710	56960	56910	56210	57470	62610	55700	54010	53670
(†)	427.58	425.86	425.20	424.57	424.50	424.53	424.45	425.38	426.62	424.25	423.91	423.84
(ф)	+27150	-9710	-3500	-3240	-360	+160	-410	+4790	+6730	-12530	-1690	-340

CAL YR 1985 MAX 108700 MIN 44800 (ф) -46540
WTR YR 1986 MAX 95250 MIN 45860 (ф) +7050

(†) Elevation, in feet, at end of month.
(ф) Change in contents, in acre-feet.

08063100 RICHLAND CREEK NEAR DAWSON, TX

LOCATION.--Lat 31°56'18", long 96°40'52", Navarro County, Hydrologic Unit 12030108, at downstream side of bridge on State Highway 31, 1.3 mi upstream from St. Louis Southwestern Railway Lines bridge, 1.7 mi downstream from Navarro Mills Dam, 2.5 mi upstream from Post Oak Creek, and 3.6 mi northeast of Dawson.

DRAINAGE AREA.--333 mi^2.

PERIOD OF RECORD.--October 1960 to current year.
Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 367.52 ft (revised) above National Geodetic Vertical Datum of 1929. Nov. 21, 1960, to Sept. 30, 1982, water-stage recorder at same site and at 3.00-foot higher datum. Prior to Nov. 21, 1960, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since Mar. 15, 1963, by Navarro Mills Lake. Flow is affected at times by discharge from the flood-detention pool of a floodwater-retarding structure with a capacity of 297 acre-ft. This structure controls runoff from 1.28 mi^2 below Navarro Mills Lake and above this On Apr. 21, 1983, gage-height telemeter was reinstalled.

AVERAGE DISCHARGE.--26 years, 141 ft^3/s (102,200 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,500 ft^3/s July 3, 1961 (gage height, 25.50 ft), from rating curve extended above 14,000 ft^3/s; no flow at times. Maximum discharge since completion of Navarro Mills Dam in 1963, 3,850 ft^3/s Nov. 24, 1974 (gage height, 22.85 ft).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1895, about 31 ft (revised) June 19, 1929, from information by local residents. Floods in 1946 and 1957 reached a stage of about 26 ft (revised), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,230 ft^3/s Oct. 19 at 1100 hours (gage height, 20.51 ft); minimum, no flow Aug. 18 and Sept. 13-18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	749	405	657	.71	1.8	.59	8.3	673	754	.86	.73
2	1.0	741	550	482	.71	1.7	.70	7.3	315	632	.34	1.5
3	.30	732	692	332	681	1.5	.94	2.3	7.2	579	.54	.82
4	.30	726	682	331	162	1.3	1.5	.76	5.1	470	2.8	1.4
5	1.5	720	675	330	19	1.3	.96	.29	17	362	3.7	1.2
6	1.2	715	322	23	13	1.4	.95	1.3	31	359	2.0	1.8
7	.38	708	5.2	2.0	5.5	.94	.26	1.2	11	361	3.1	1.7
8	1.1	701	4.3	1.6	4.0	.95	.19	1.5	6.2	362	2.0	1.2
9	3.2	696	3.8	1.5	3.7	.77	.32	.91	5.0	354	1.5	.76
10	2.2	695	8.8	1.3	3.7	.81	1.9	51	4.1	351	1.2	.22
11	2.6	701	370	1.2	3.3	.99	265	8.2	82	349	1.9	.12
12	1.7	543	28	1.1	3.0	1.0	313	179	15	345	1.4	.02
13	2.4	194	9.2	1.1	505	.85	1.2	371	6.5	342	.56	.00
14	1.9	5.2	6.2	1.1	1070	.86	.33	366	4.7	152	.60	.00
15	2.7	5.8	5.1	1.1	1060	1.2	1.7	362	3.8	3.7	.18	.00
16	1.9	6.6	295	1.1	1040	.99	.60	184	3.4	3.0	.07	.00
17	2.2	5.0	727	1.2	1030	.85	.12	194	3.7	2.8	.02	.00
18	2.9	4.4	723	1.0	1200	1.1	.17	66	232	2.6	.00	.00
19	1050	3.8	718	1.0	1370	.88	19	5.6	897	2.3	.07	.01
20	112	3.8	712	.87	1360	.94	12	4.6	1140	2.2	.01	.35
21	21	3.4	708	.85	1350	1.0	2.2	3.4	1120	1.8	.12	1.2
22	19	3.7	702	.77	1310	1.1	1.1	355	1100	3.2	.57	1.7
23	19	4.0	697	.72	1280	1.1	.36	729	1090	3.5	.78	1.9
24	240	34	693	1.2	1010	.87	.23	643	1080	2.2	.91	1.8
25	466	11	691	1.2	598	.97	.18	6.9	1070	1.8	.22	1.3
26	455	5.3	685	.77	475	.67	.10	3.2	1060	1.5	.08	.88
27	451	298	679	.61	202	.77	.11	288	1040	1.4	.10	.73
28	608	39	675	.79	2.2	.99	.15	655	1030	.83	.79	.58
29	777	9.4	671	.88	---	.91	.26	649	1010	.48	1.3	.45
30	766	182	665	.72	---	.71	.13	642	917	.42	.33	.42
31	754	---	660	.71	---	.62	---	664	---	1.1	.19	---
TOTAL	5769.18	9245.4	14467.6	2181.39	15761.82	31.84	626.25	6453.76	13979.7	5806.83	28.24	22.79
MEAN	186	308	467	70.4	563	1.03	20.9	208	466	187	.91	.76
MAX	1050	749	727	657	1370	1.8	313	729	1140	754	3.7	1.9
MIN	.30	3.4	3.8	.61	.71	.62	.10	.29	3.4	.42	.00	.00
AC-FT	11440	18340	28700	4330	31260	63	1240	12800	27730	11520	56	45

CAL YR 1985 TOTAL 70556.18 MEAN 193 MAX 1110 MIN .00 AC-FT 139900
WTR YR 1986 TOTAL 74374.80 MEAN 204 MAX 1370 MIN .00 AC-FT 147500

08063500 RICHLAND CREEK NEAR RICHLAND, TX

LOCATION.--Lat 31°57'02", long 96°25'16", Navarro County, Hydrologic Unit 12030108, at left end of downstream bridge on U.S. Highway 75 (Interstate Highway 45), 800 ft downstream from Texas and New Orleans Railroad Co. bridge, 1.0 mi north of Richland, 3.5 mi downstream from Pin Oak Creek, and 36.7 mi upstream from mouth.

DRAINAGE AREA.--734 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1924 to February 1925 (discharge measurements and gage heights only), March 1939 to current year.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 299.12 ft above National Geodetic Vertical Datum of 1929. Dec. 11, 1924, to Feb. 11, 1925, nonrecording gage at site 800 ft upstream. Mar. 17, 1939, to Feb. 14, 1958, water-stage recorder at site 50 ft upstream. Feb. 15, 1958, to Jan. 28, 1959, nonrecording gage at present site. June 8, 1955, Feb. 14, 1958, and since Feb. 6, 1959, supplementary water-stage recorder at overflow channel 3,900 ft to right of main channel gage. All gages at present datum.

REMARKS.--Estimated daily discharges: Dec. 12-Jan. 23: Records good except estimated daily discharges, which are fair. Since October 1962, flow is partly regulated by Navarro Mills Lake (station 08063050) about 25 mi upstream. Flow is also affected at times by discharge from the flood-detention pools of 73 floodwater-retarding structures with a combined detention capacity of 42,060 acre-ft. These structures control runoff from 143 mi² in the Richland Creek drainage basin. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--23 years (water years 1940-62) prior to regulation by Navarro Mills Lake, 404 ft³/s (292,700 acre-ft/yr); 24 years (water years 1963-86) regulated, unadjusted, 320 ft³/s (231,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58,900 ft³/s May 12, 1948 (gage height, 24.16 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1899, 25.5 ft in December 1913 (discharge not determined), from information by Texas and New Orleans Railroad Co.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,600 ft³/s Feb. 4 at 1800 hours (gage height, 22.09 ft); maximum gage-height at main channel, 22.11 ft Feb. 4 at 2100 hours; minimum, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	900	771	690	3.0	25	2.1	3.6	1860	1000	.49	.00
2	8.4	816	687	668	3.0	15	1.9	277	1680	802	.27	.00
3	.68	781	813	367	972	12	2.0	446	889	682	.14	.00
4	.00	759	782	331	8180	11	2.9	131	271	859	.39	.00
5	.00	745	734	325	6690	11	4.5	65	844	516	.30	.00
6	.00	734	693	311	3180	8.7	7.4	36	3340	427	.48	.44
7	.00	729	169	78	1590	8.5	6.1	21	3650	407	.75	18
8	.00	723	32	25	1020	7.8	4.9	14	2300	404	.67	10
9	.00	723	20	13	733	7.1	3.4	9.8	874	393	.43	6.7
10	.00	721	20	6.5	711	7.5	4.0	216	451	386	.31	5.9
11	.00	932	3920	5.2	489	6.1	6.0	1740	1280	383	1.2	2.8
12	.00	995	7910	3.9	310	6.0	477	607	3000	380	19	1.1
13	.00	515	3780	3.2	215	5.7	185	505	948	378	23	.24
14	.00	134	1530	3.7	1100	4.9	26	472	394	372	10	.00
15	.00	32	980	3.9	1300	4.7	13	421	200	105	5.6	.00
16	.00	92	667	3.9	1290	4.6	6.8	396	170	20	3.8	.00
17	.00	112	1030	3.9	1260	3.6	3.8	374	750	7.5	2.3	.00
18	.00	267	1060	3.7	1230	3.6	3.1	3420	297	4.6	1.4	.00
19	1680	158	949	3.7	1550	2.6	6.5	1720	671	2.8	.40	.00
20	7700	77	875	4.4	1630	2.4	625	645	1490	3.3	.00	.00
21	5650	45	814	4.4	1600	2.4	328	361	1470	2.1	.00	.00
22	1760	24	782	4.6	1570	2.0	93	203	1350	40	.00	15
23	1010	16	764	4.9	1540	1.7	49	769	1310	9.6	.00	39
24	723	484	751	5.8	1490	2.5	29	898	1300	4.1	.00	15
25	839	1850	740	5.7	969	1.7	16	1040	1270	5.1	.00	6.3
26	761	792	732	6.4	566	.92	9.2	377	1250	3.8	.00	3.1
27	654	2660	722	4.6	489	2.3	6.7	103	1230	3.0	.49	1.4
28	562	4210	718	2.9	117	3.5	9.4	552	1220	2.4	.47	.47
29	1460	2500	710	1.6	---	3.1	6.1	719	1200	2.1	.02	.04
30	1710	827	704	2.9	---	2.9	3.0	703	1170	1.7	.00	.00
31	1110	---	701	3.0	---	2.5	---	1070	---	1.0	.00	---
TOTAL	25690.08	24353	35560	2900.8	41797.0	183.32	1940.8	18314.4	38129	7607.1	71.91	125.49
MEAN	829	812	1147	93.6	1493	5.91	64.7	591	1271	245	2.32	4.18
MAX	7700	4210	7910	690	8180	25	625	3420	3650	1000	23	39
MIN	.00	16	20	1.6	3.0	.92	1.9	3.6	170	1.0	.00	.00
AC-FT	50960	48300	70530	5750	82900	364	3850	36330	75630	15090	143	249

CAL YR 1985 TOTAL 141741.73 MEAN 388 MAX 7910 MIN .00 AC-FT 281100
WTR YR 1986 TOTAL 196672.90 MEAN 539 MAX 8180 MIN .00 AC-FT 390100

08063500 RICHLAND CREEK NEAR RICHLAND, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1967 to December 1973. Chemical and biochemical analyses: August 1983 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to September 1969, October 1983 to current year.
WATER TEMPERATURES: October 1967 to September 1969, October 1983 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,920 microsiemens Nov. 5, 1968; minimum daily, 119 microsiemens Oct. 30, 1967.
WATER TEMPERATURES: Maximum daily, 34.0°C Aug. 18, 1969; minimum daily, 2.0°C Dec. 22, 1983.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,770 microsiemens Apr. 11; minimum daily, 155 microsiemens Oct. 20.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
OCT 30...	1110	1740	237	7.90	16.5	55	170	8.3	86	2.1	93	13
JAN 23...	1200	5.0	1140	7.80	12.0	20	4.0	10.6	99	1.2	400	110
MAY 07...	1200	21	455	7.79	24.5	50	40	8.2	100	2.8	120	0
JUL 02...	1200	753	301	7.86	30.5	10	5.5	7.4	--	1.5	120	14
AUG 14...	1700	9.1	860	8.04	29.0	10	15	9.7	--	2.2	260	84

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
OCT 30...	33	2.6	12	0.6	5.5	80	25	8.7	0.3	11	150
JAN 23...	140	13	84	2	4.6	295	160	100	0.3	9.5	690
MAY 07...	42	2.7	45	2	5.3	135	47	25	0.3	7.1	260
JUL 02...	42	3.2	15	0.6	4.4	104	33	11	0.4	6.7	180
AUG 14...	92	8.0	73	2	5.5	179	110	110	0.3	8.1	510

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DISSOLVED (UG/L AS AS)
OCT 30...	--	--	0.37	0.03	0.40	--	--	1.2	0.38	--	12
JAN 23...	6	5	--	<0.01	<0.10	0.04	0.56	0.6	0.03	--	--
MAY 07...	82	18	4.26	0.14	4.40	0.06	1.2	1.3	0.20	9.2	2
JUL 02...	120	16	0.38	0.02	0.40	0.05	0.75	0.8	0.09	6.9	6
AUG 14...	23	8	0.08	0.02	<0.10	0.06	0.54	0.6	0.07	7.9	2

DATE	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 30...	56	<1	<10	2	110	2	<1	0.1	<1	<1	13
JAN 23...	--	--	--	--	--	--	--	--	--	--	--
MAY 07...	100	<1	<10	7	59	2	42	<0.1	<1	<1	5
JUL 02...	59	<1	<10	4	20	<5	1	--	<1	<1	5
AUG 14...	120	<1	<10	1	8	<5	4	<0.1	<1	<1	14

08063500 RICHLAND CREEK NEAR RICHLAND, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	25690.08	190	109	7590	10	704	20	1390	69
NOV. 1985	24353	243	140	9220	14	896	26	1710	87
DEC. 1985	35560	238	138	13200	13	1280	26	2450	86
JAN. 1986	2900.8	346	201	1580	22	172	39	305	120
FEB. 1986	41797.0	243	140	15800	14	1550	26	2950	87
MAR. 1986	183.32	1040	622	308	100	52	140	71	340
APR. 1986	1940.8	431	252	1320	30	159	51	265	150
MAY 1986	18314.4	287	166	8220	17	833	31	1550	100
JUNE 1986	38129	262	152	15600	15	1550	28	2910	94
JULY 1986	7607.1	315	182	3750	19	384	34	709	110
AUG. 1986	71.91	837	494	96	72	14	110	21	280
SEPT 1986	125.49	497	291	98	37	12	59	20	170
TOTAL	196672.90	**	**	76800	**	7600	**	14300	**
WTD.AVG.	539	250	145	**	14	**	27	**	90

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	237	265	249	299	1420	579	1600	639	301	305	865	---
2	252	269	276	298	1450	612	1580	550	274	301	910	---
3	265	273	235	315	238	672	1640	378	286	327	995	---
4	---	276	240	331	176	780	1620	344	327	301	980	---
5	---	277	272	350	170	873	1630	393	286	316	1010	---
6	---	276	299	363	197	927	1650	437	188	320	975	1010
7	---	277	327	434	216	955	1660	474	173	322	958	445
8	---	277	389	478	218	1090	1600	500	221	330	1020	391
9	---	280	411	522	230	1110	1640	546	235	323	1250	669
10	---	286	460	571	243	1180	1550	475	254	321	1390	786
11	---	260	221	624	269	1230	1770	223	232	312	1240	830
12	---	249	182	680	282	1260	414	295	188	310	825	886
13	---	268	193	730	292	1290	611	312	254	315	720	927
14	---	301	197	783	297	1310	795	356	290	318	865	---
15	---	324	200	800	304	1340	860	365	335	341	905	---
16	---	330	243	835	305	1450	911	368	296	454	930	---
17	---	326	290	978	307	1510	968	335	204	455	955	---
18	---	331	272	999	310	1460	1030	228	295	476	969	---
19	210	374	280	1020	312	1490	1010	243	334	524	1000	---
20	155	378	286	1040	307	1510	315	236	310	573	---	---
21	173	393	289	1050	311	1450	340	233	314	663	---	---
22	180	406	293	1090	312	1510	362	250	323	204	---	957
23	179	415	296	1150	314	1550	380	276	317	263	---	309
24	174	340	298	1200	315	1540	424	339	311	365	---	282
25	205	256	299	1250	320	1580	477	229	323	515	---	554
26	243	265	302	1290	336	1610	505	253	325	669	---	628
27	247	225	300	1330	338	1570	523	313	322	706	920	630
28	254	182	304	1360	390	1540	569	347	314	724	935	681
29	243	189	301	1340	---	1560	627	345	310	750	960	700
30	237	210	300	1360	---	1570	633	350	309	789	---	---
31	266	---	300	1400	---	1590	---	331	---	810	---	---
MEAN	220	293	284	847	364	1280	990	354	282	442	981	668

08063500 RICHLAND CREEK NEAR RICHLAND, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	---	---	---	---	13.0	---	23.0	---	---		---
2	---	---	12.0	9.0	---	16.0	---	22.0	---	---		---
3	---	---	11.0	9.0	17.0	15.0	---	---	---	---		---
4	---	18.0	12.0	---	19.0	---	---	24.0	---	29.0		---
5	---	17.0	---	---	18.0	15.0	---	---	25.0	30.0		---
6	---	17.0	11.0	10.0	15.0	17.0	---	---	25.0	30.0		---
7	---	17.0	---	9.0	14.0	18.0	---	23.0	20.0	28.0		---
8	---	16.0	---	8.0	12.0	19.0	25.0	25.0	25.0	31.0		29.0
9	---	---	15.0	9.0	---	19.0	21.0	---	25.0	30.0		---
10	---	---	16.0	9.0	7.0	20.0	20.0	---	26.0	30.0		---
11	---	18.0	---	---	7.0	20.0	19.0	---	26.0	30.0		---
12	---	18.0	7.0	---	7.0	20.0	21.0	---	---	31.0		---
13	---	---	5.0	10.0	6.0	19.0	---	---	24.0	---		---
14	---	---	5.0	10.0	10.0	18.0	20.0	---	25.0	30.0		---
15	---	18.0	6.0	12.0	11.0	19.0	20.0	---	27.0	29.0		---
16	---	---	6.0	10.0	---	19.0	21.0	---	26.0	29.0		---
17	---	---	8.0	12.0	14.0	19.0	21.0	---	27.0	28.0		---
18	---	19.0	8.0	---	15.0	18.0	22.0	---	28.0	32.0		---
19	---	19.0	8.0	---	15.0	19.0	---	---	26.0	31.0		---
20	---	17.0	8.0	15.0	15.0	18.0	18.0	---	25.0	31.0		---
21	21.0	16.0	---	13.0	12.0	18.0	18.0	---	28.0	29.0		---
22	21.0	15.0	---	12.0	---	---	21.0	---	27.0	---		---
23	22.0	---	9.0	13.0	---	19.0	22.0	---	29.0	---		---
24	21.0	17.0	---	14.0	14.0	19.0	22.0	---	28.0	---		---
25	22.0	19.0	---	---	15.0	---	23.0	---	28.0	---		---
26	22.0	18.0	7.0	---	17.0	---	21.0	---	29.0	---		---
27	21.0	16.0	13.0	11.0	15.0	19.0	22.0	---	30.0	---		---
28	20.0	---	---	13.0	12.0	---	24.0	---	30.0	---		---
29	19.0	---	---	14.0	---	---	23.0	---	30.0	---		---
30	18.0	---	9.0	14.0	---	---	22.0	---	28.0	---		---
31	17.0	---	9.0	15.0	---	---	---	---	---	---		---
MEAN	20.0	17.5	9.5	11.5	13.0	18.0	21.0	23.5	26.5	30.0		29.0

08063685 WAXAHACHIE CREEK NEAR WAXAHACHIE, TX

LOCATION.--Lat 32°18'27", long 96°44'19", Ellis County, Hydrologic Unit 12030109, at bridge on county road, 1.0 mi northwest of intersection of county road and Farm Road 984, 1.3 mi upstream from normal pool of Bardwell Lake, and 8.4 mi southeast of Waxahachie.

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1985 to August 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
OCT 28...	1500	90	428	7.67	15.5	10	33	7.4	77	3.3	170	17
JAN 21...	1600	35	647	7.90	14.0	5	4.0	11.0	109	3.6	240	13
MAY 05...	1500	15	708	7.70	22.5	10	4.2	4.6	54	9.3	240	40
JUN 30...	1500	27	582	8.02	25.0	5	1.3	6.7	82	1.3	220	20
AUG 11...	1600	7.3	307	7.65	26.0	20	47	5.6	70	1.5	99	1

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
OCT 28...	63	1.9	21	0.7	3.6	148	40	14	0.3	8.1	240
JAN 21...	93	2.3	36	1	2.6	229	65	22	0.3	4.1	360
MAY 05...	93	2.6	47	1	3.4	203	110	32	0.4	7.0	420
JUN 30...	86	2.1	37	1	3.0	203	68	25	0.3	9.6	350
AUG 11...	38	1.1	23	1	3.4	98	44	8.0	0.3	4.2	180

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DISSOLVED (UG/L AS AS)
OCT 28...	--	--	--	0.18	<0.10	--	--	1.1	0.22	--	2
JAN 21...	10	9	1.99	0.21	2.20	0.75	1.3	2.1	0.15	--	--
MAY 05...	29	6	3.77	0.43	4.20	4.70	5.2	9.9	0.20	4.2	2
JUN 30...	10	6	2.18	0.02	2.20	0.05	0.55	0.6	0.27	3.3	--
AUG 11...	34	14	1.46	0.04	1.50	0.06	0.44	0.5	0.26	8.4	3

DATE	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 28...	64	<1	<10	3	9	<1	24	0.1	<1	<1	5
JAN 21...	--	--	--	--	--	--	--	--	--	--	--
MAY 05...	94	<1	<10	<1	4	2	43	<0.1	<1	<1	4
JUN 30...	--	--	--	--	--	--	--	--	--	--	--
AUG 11...	42	1	<10	3	20	<5	5	<0.1	<1	<1	8

08063690 MUSTANG CREEK NEAR ENNIS, TX

LOCATION.--Lat 32°21'41", long 96°43'54", Ellis County, Hydrologic Unit 12030109, on county road, near center of channel at upstream side of bridge, 3.4 mi upstream from Wolf Branch, 4.6 mi upstream from U.S. Highway 287 bridge, and 6.7 m northwest of intersection of U.S. Highway 287 and Business Route U.S. Highway 75 in Ennis.

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1985 to June 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
OCT 28...	1600	0.6	528	8.39	15.0	10	5.2	8.1	83	0.9	160	29
JAN 21...	1500	0.4	836	8.20	17.0	7	1.2	11.5	121	0.1	220	100
JUN 30...	1700	0.45	653	7.88	28.0	15	3.0	6.9	--	3.9	180	58

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 28...	59	2.8	39	1	2.7	130	71	36	0.5	7.2	300
JAN 21...	79	4.5	80	2	2.1	114	150	94	0.6	2.3	480
JUN 30...	65	4.1	63	2	3.5	121	110	67	0.5	5.8	390

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)
OCT 28...	--	--	1.09	0.01	1.10	--	--	0.4	0.02	--	2
JAN 21...	2	2	2.58	0.02	2.60	0.02	0.58	0.6	0.03	--	--
JUN 30...	29	6	--	<0.01	<0.10	0.04	0.46	0.5	0.04	7.6	2

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT 28...	65	<1	<10	2	15	2	5	<0.1	<1	<1	7
JAN 21...	--	--	--	--	--	--	--	--	--	--	--
JUN 30...	89	<1	<10	1	8	<5	2	<0.1	<1	1	6

08063695 LAKE CLARK OUTFLOW NEAR ENNIS, TX

LOCATION.--Lat 32°19'01", long 96°39'32", Ellis County, Hydrologic Unit 12030109, on county road bridge, over center of channel at downstream side of bridge, 0.4 mi downstream from U.S. Highway 287, 0.9 mi downstream from Lake Clark outl and 2.2 mi west of intersection of U.S. Highway 287 and Business Route U.S. Highway 75 in Ennis.

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1985 to September 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
OCT										
28...	1700	0.86	272	8.52	16.0	15	18	7.6	79	1.2

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT										
28...	99	0	33	4.0	14	0.6	5.0	104	18	8.7

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
OCT										
28...	0.0	6.0	150	0.08	0.02	0.10	0.7	0.04	2	61

DATE	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
OCT									
28...	1	10	1	13	1	3	0.1	1	3

08063700 BARDWELL LAKE NEAR ENNIS, TX

LOCATION.--Lat 32°15'00", long 96°38'49", Ellis County, Hydrologic Unit 12030109, in intake structure of Bardwell Dam on Waxanachie Creek, 5 mi south of Ennis, and 5.6 mi upstream from mouth.

DRAINAGE AREA.--178 mi².

PERIOD OF RECORD.--November 1965 to current year. Prior to October 1970, published as Bardwell Reservoir.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Prior to Apr. 25, 1966, nonrecording gage on intake structure at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 15,400 ft long, including a 350-foot uncontrolled off-channel concrete-gravity spillway with ogee weir section. Deliberate impoundment began Nov. 20, 1965, and dam was completed Mar. 27, 1966. Controlled low-flow outlet works consists of a 10.0-foot-diameter concrete conduit with two 5.0- by 10.0-foot sluice gates. Lake was built for flood control and water conservation. Capacity table beginning October 1976 is based on a survey completed in 1972. Runoff from 81.4 mi² above Bardwell Lake is modified by Lake Waxahachie, with a capacity of 13,500 acre-ft at spillway elevation. The city of Waxahachie divertes water from Lake Waxabachie and returns an unknown amount of effluent to Waxahachie Creek. Inflow is affected at times by discharge from flood-detention pools of 23 floodwater-retarding structures with a combined detention capacity of 15,370 acre-ft. These structures control runoff from 52.4 mi² in the Chambers Creek watershed. Gage-height telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	460.0	-
Design flood..	455.9	-
Crest of spillway (top of flood-control pool)........................	439.0	137,600
Top of conservation pool..	421.0	52,300
Lowest gated outlet (invert)......................................	391.0	690

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 103,300 acre-ft May 19, 1969 (elevation, 432.35 ft); minimum since initial filling, 39,720 acre-ft Nov. 10, 1978 (elevation, 417.21 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 77,130 acre-ft Dec. 16 at 1800 hours (elevation, 427.28 ft); minimum daily, 45,360 acre-ft Oct. 7 at 2000 hours (elevation, 418.99 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

418.0	42,170	422.0	55,920	426.0	71,630
420.0	48,780	424.0	63,550	428.0	80,300

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45970	57240	57650	54830	52940	52650	53780	53450	58100	54650	51240	49800
2	45900	55960	56980	54290	53020	52760	53710	53240	58060	54220	51200	49870
3	45830	54720	55850	52960	55850	52870	53530	52980	58330	53890	51130	49900
4	45800	53490	54830	53670	59570	52940	53490	52730	58520	53670	51060	49900
5	45700	52190	53670	53240	60840	52980	53380	52540	62660	53340	50920	50150
6	45560	51800	53160	52840	62150	53050	53240	52290	68060	53090	50850	52630
7	45490	51760	53160	52540	62890	53020	53090	52260	69210	52870	50780	52980
8	45490	51690	53090	52400	63350	53090	53020	52910	69900	52730	50680	52870
9	45490	51800	53050	52440	64140	53130	52690	53820	70440	52650	50600	52840
10	45600	52040	56220	52510	64660	53240	52510	54910	70890	52580	50680	52760
11	45630	52260	71590	52580	65020	53340	52470	55230	72230	52470	50850	52840
12	45630	52330	73640	52650	65340	53530	52580	55230	72910	52360	50850	52730
13	45600	52400	74960	52690	64740	53530	52440	55090	73340	52330	50750	52650
14	46170	52540	75860	52800	63390	53670	52510	54980	73640	52290	50680	52620
15	46100	52910	76740	52840	61960	53710	52510	54620	73940	52220	50570	52620
16	46070	52980	76600	52940	60680	53710	52440	54430	74750	52120	50500	52840
17	46040	53160	75430	53050	59340	53670	52400	56640	75220	52080	50460	52910
18	47730	53340	74190	53160	57840	53850	52470	58330	75220	51980	50400	52760
19	64060	53450	72780	53240	56490	53820	53020	58850	73940	51940	50320	52800
20	65620	53450	71380	53270	55160	53740	53380	59270	72010	51870	50250	52760
21	66210	53450	70110	53240	54220	53710	53530	59380	70070	51830	50180	52690
22	66850	53490	68760	53020	53850	53670	53530	59000	68260	51900	50110	52620
23	67010	53490	67410	52760	53490	53710	53530	57910	66330	51940	50080	52440
24	66210	53780	65970	52650	53160	53670	53530	59530	64380	51870	50110	52290
25	65260	53850	64260	52800	52940	53670	53560	62420	62540	51800	50040	52220
26	64020	54000	62890	52800	52840	53710	53530	63160	60530	51730	49970	52150
27	62730	55520	61380	52760	52800	53740	53640	63040	58930	51660	49940	52120
28	61730	56300	59840	52800	52650	53740	53450	62000	57540	51550	49970	52290
29	60880	56900	58400	52840	---	53740	53200	60990	56110	51480	49870	52260
30	59680	57690	57010	52840	---	53710	53340	59910	55270	51410	49760	52150
31	58550	---	55700	52870	---	53740	---	58890	---	51310	49690	---
MAX	67010	57690	76740	54830	65340	53850	53780	63160	75220	54650	51240	52980
MIN	45490	51690	53050	52400	52650	52650	52400	52260	55270	51310	49690	49800
(†)	422.70	422.47	421.94	421.16	421.10	421.40	421.29	422.79	421.82	420.72	420.26	420.96
(‡)	+12450	-860	-1990	-2830	-220	+1090	-400	+5550	-3620	-3960	-1620	+2460

CAL YR 1985	MAX	76740	MIN	45390	(‡)	-15180
WTR YR 1986	MAX	76740	MIN	45490	(‡)	+6050

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

08063800 WAXAHACHIE CREEK NEAR BARDWELL, TX

LOCATION.--Lat 32°14'36", long 96°38'24", Ellis County, Hydrologic Unit 12030109, on left bank at downstream side of highway embankment near left end of bridge on county road, 0.8 mi downstream from Bardwell Dam, 3.6 mi southeast of Bardwell, 3.8 mi downstream from bridge on State Highway 34, and 4.1 mi upstream from mouth.

DRAINAGE AREA.--178 mi².

PERIOD OF RECORD.--October 1963 to current year.
Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 370.18 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Bardwell Lake (station 08063700) 0.8 mi upstream. Gage-height telemeter at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--23 years, 72.2 ft³/s (52,310 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,960 ft³/s Feb. 9, 1965 (gage height, 17.55 ft); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1944, about 23 ft in 1944 and 1945, from information by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 881 ft³/s June 19 at 2100 hours (gage height, 11.78 ft); minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	492	89	323	.00	.40	.19	118	488	262	2.5	1.5
2	.08	485	304	219	.00	.30	28	117	224	259	2.5	1.5
3	.08	480	485	156	.67	.26	85	114	5.5	183	2.4	1.2
4	.08	476	481	152	.02	.22	86	110	5.3	117	2.2	1.3
5	.07	475	473	154	.24	.17	86	109	13	115	1.9	1.4
6	.07	225	250	154	.00	.17	88	108	220	115	1.9	1.9
7	.07	1.7	81	156	.00	.17	87	48	168	114	1.8	1.5
8	.07	.80	82	29	.00	.17	86	5.1	13	52	1.8	1.5
9	.07	.56	82	.00	.00	.18	109	5.8	8.6	6.0	1.7	1.5
10	.07	.40	88	.00	.00	.18	89	4.5	9.2	5.9	1.5	1.6
11	.07	1.3	124	.00	.00	.22	.45	3.6	14	4.9	1.4	1.6
12	.07	1.2	28	.00	.00	.22	.33	70	11	4.5	1.2	1.7
13	.07	.60	.18	.00	283	.17	.24	133	10	4.1	1.1	1.5
14	.14	.76	.05	.00	654	.15	.25	133	9.8	3.9	1.1	1.5
15	.30	2.4	.03	.00	594	.15	.16	133	9.6	3.7	1.2	1.3
16	.13	1.5	316	.00	619	.14	.20	132	13	3.3	1.2	1.3
17	.15	1.1	683	.00	620	.15	.24	147	11	3.4	1.3	1.1
18	.69	.72	667	.00	617	.17	.22	72	133	3.3	1.2	1.1
19	197	.76	639	.00	611	.12	.39	4.0	578	3.3	1.2	1.1
20	132	.76	661	.00	604	.14	.33	3.7	872	3.2	1.3	1.2
21	8.6	.76	647	32	391	.14	.24	3.6	854	3.2	1.3	1.3
22	1.4	.80	659	75	169	.12	.22	240	843	3.3	1.3	19
23	115	.85	654	74	169	.12	.20	468	835	3.3	1.4	32
24	418	1.5	648	16	169	.12	.18	400	820	3.4	1.4	14
25	485	1.8	583	.00	129	.14	.18	7.0	808	3.2	1.5	.59
26	480	.95	590	.00	105	.16	.18	6.1	804	3.1	1.4	.66
27	478	3.7	614	.00	105	.17	.20	224	655	3.0	1.2	.71
28	496	1.2	607	.00	44	.16	69	496	505	2.8	1.2	.79
29	503	.80	610	.00	---	.17	118	488	501	2.7	1.4	.80
30	502	.80	596	.00	---	.17	117	485	402	2.7	1.4	.83
31	497	---	471	.00	---	.20	---	487	---	2.6	1.4	---
TOTAL	4315.36	2660.72	12212.26	1540.00	5883.93	5.52	1052.40	4875.4	9843.0	1299.8	47.3	98.98
MEAN	139	88.7	394	49.7	210	.18	35.1	157	328	41.9	1.53	3.30
MAX	503	492	683	323	654	.40	118	496	872	262	2.5	32
MIN	.07	.40	.03	.00	.00	.12	.16	3.6	5.3	2.6	1.1	.59
AC-FT	8560	5280	24220	3050	11670	11	2090	9670	19520	2580	94	196

CAL YR 1985 TOTAL 45284.25 MEAN 124 MAX 683 MIN .00 AC-FT 89820
WTR YR 1986 TOTAL 43834.67 MEAN 120 MAX 872 MIN .00 AC-FT 86950

08064100 Chambers Creek near Rice, Tex.

LOCATION.--Lat 32°11'54, long 96°31'12", Navarro County, Hydrologic Unit 12030109, on downstream side of highway embankment 20 ft left of left end of bridge on Farm Road 1126, 3.6 mi downstream from Oak Branch, 3.9 mi upstream from Cummins Creek, 4.2 mi upstream from bridge on Interstate Highway 45, 5.0 miles downstream from Waxahachie Creek, and 3.4 mi southwest of Rice.

DRAINAGE AREA.--807 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1983 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 340.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Water-discharge records good. Flow from 178 mi² is affected by storage in Bardwell Lake on Waxahachie Creek. Flood releases from Bardwell Lake will sustain higher flows from time to time. In addition flow is affected at times by discharge from the flood-detention pools of numerous floodwater-retarding structures in the drainage basin above this station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,400 ft³/s June 6, 1986, at 2200 hours (gage height, 31.12 ft), from rating curve extended above 15,000 ft³/s on basis of velocity-area study; no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood information for next downstream station (08064500) indicates maximum stage since at least 1870 occurred in August 1887 and other significant floods occurred in December 1913, May 1944, and May 1958. Stages for these floods are unknown for this station and over the years a levee system has been developed along the main channel to limit crop land flooding.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 43,400 ft³/s June 6 at 2200 hours (gage height, 31.12 ft), from rating curve extended above 15,000 ft³/s on basis of velocity-area study; minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	759	173	556	38	80	26	157	754	308	6.1	2.1
2	.00	702	317	473	37	72	26	217	612	301	5.8	3.7
3	.00	669	658	308	981	70	105	151	573	274	5.7	65
4	.00	648	653	301	4420	67	114	130	256	216	7.8	205
5	.00	635	645	294	1440	65	111	122	1470	250	5.9	83
6	.00	490	519	287	2160	60	111	119	18400	188	5.2	214
7	.00	79	177	284	1220	56	113	100	21900	170	5.0	1830
8	.00	66	174	223	599	52	114	31	7250	134	5.5	684
9	.00	64	170	84	473	51	114	1050	2530	40	5.0	339
10	.00	60	248	79	590	49	187	1040	2160	36	4.6	192
11	.00	80	10200	77	461	46	31	1770	2200	33	5.5	126
12	.00	81	9200	72	340	56	30	880	3730	30	72	92
13	.00	66	3500	69	415	56	28	437	1820	26	22	62
14	.00	56	1980	68	872	47	27	317	854	24	9.2	43
15	50	76	1210	64	853	44	25	255	662	22	6.5	36
16	4.2	122	969	61	836	42	22	224	541	20	4.9	29
17	1.0	99	1190	62	827	41	20	2480	530	19	3.8	25
18	11	85	1040	61	809	41	20	8700	436	18	3.4	21
19	14400	80	978	60	793	39	24	4880	820	17	2.9	16
20	14900	68	940	58	778	37	300	1730	1050	16	2.5	14
21	5710	53	911	82	667	34	604	713	989	15	2.3	13
22	1950	43	882	164	319	33	159	577	952	17	2.2	16
23	1210	40	855	160	306	32	93	820	927	16	2.0	59
24	1290	58	833	131	303	32	58	799	906	23	2.4	53
25	1300	98	808	45	269	31	43	942	891	17	2.8	11
26	1110	81	794	42	204	30	38	344	885	13	2.3	8.2
27	952	433	787	40	201	30	35	321	802	12	2.0	6.7
28	861	1080	781	39	163	29	50	742	668	9.8	2.6	5.5
29	970	307	774	39	---	29	123	711	656	8.5	4.7	6.1
30	933	183	767	39	---	27	121	694	563	7.5	2.9	4.5
31	823	---	729	37	---	27	---	685	---	6.6	2.1	---
TOTAL	46475.20	7361	43862	4359	21374	1405	2872	32138	76787	2287.4	217.6	4264.8
MEAN	1499	245	1415	141	763	45.3	95.7	1037	2560	73.8	7.02	142
MAX	14900	1080	10200	556	4420	80	604	8700	21900	308	72	1830
MIN	.00	40	170	37	37	27	20	31	256	6.6	2.0	2.1
AC-FT	92180	14600	87000	8650	42400	2790	5700	63750	152300	4540	432	8460

CAL YR 1985 TOTAL 166877.20 MEAN 457 MAX 14900 MIN .00 AC-FT 331000
WTR YR 1986 TOTAL 243403.00 MEAN 667 MAX 21900 MIN .00 AC-FT 482800

08064100 Chambers Creek near Rice, Tex.--Continued

WATER-QUALITY RECODS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1983 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1983 to current year.
WATER TEMPERATURES: October 1983 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 959 microsiemens Jan. 24, 1984; minimum daily, 187 microsiemens Dec. 18, 1984.
WATER TEMPERATURES: Maximum daily, 37.0°C Aug. 19, 1984; minimum daily, 3.0°C Jan. 1, 13, 20, 22, 1984.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 898 microsiemens Sept. 2; minimum daily, 210 microsiemens May 18.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
OCT 29...	1200	1020	287	7.60	17.0	30	390	8.8	92	1.6	94	6
JAN 22...	1800	161	388	8.00	11.0	20	34	11.0	100	1.6	150	16
MAY 06...	1500	119	406	8.08	22.5	10	43	8.4	99	1.8	150	23
JUL 01...	1900	297	359	7.68	29.0	10	30	6.7	--	1.5	140	17
AUG 15...	1200	6.0	395	7.61	27.5	20	72	5.7	--	1.0	120	18

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
OCT 29...	34	2.1	14	0.7	3.6	88	28	9.6	0.3	7.1	150
JAN 22...	54	2.6	20	0.8	2.9	130	40	15	0.3	4.1	220
MAY 06...	57	3.0	25	0.9	3.4	132	47	17	0.4	1.6	230
JUL 01...	51	2.7	19	0.7	3.4	122	36	13	0.3	4.6	200
AUG 15...	45	2.7	29	1	3.1	106	44	26	0.4	8.5	220

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DISSOLVED (UG/L AS AS)
OCT 29...	--	128	0.38	0.02	0.40	0.06	1.7	1.8	0.57	15	9
JAN 22...	60	9	1.08	0.02	1.10	0.06	0.24	0.3	0.05	--	--
MAY 06...	82	18	1.46	0.04	1.50	0.02	0.58	0.6	0.11	4.0	2
JUL 01...	106	18	0.49	0.01	0.50	0.04	0.46	0.5	0.06	4.8	4
AUG 15...	50	13	0.76	0.04	0.80	0.06	0.44	0.5	0.05	7.0	2

DATE	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 29...	45	1	<10	5	67	2	3	<0.1	<1	<1	9
JAN 22...	--	--	--	--	--	--	--	--	--	--	--
MAY 06...	57	<1	<10	<1	<3	1	<1	<0.1	<1	1	<3
JUL 01...	57	<1	<10	1	10	<5	2	<0.1	<1	1	7
AUG 15...	51	<1	<10	4	19	<5	1	<0.1	<1	<1	7

08064100 Chambers Creek near Rice, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR APRIL 1986 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
APR. 1986	2872	464	266	2060	24	184	63	488	160
MAY 1986	32138	290	163	14100	7.3	631	34	2920	110
JUNE 1986	76787	289	162	33500	6.6	1370	33	6840	110
JULY 1986	2287.4	441	253	1560	22	135	59	366	150
AUG. 1986	217.6	665	392	231	57	34	110	63	190
SEPT 1986	4264.8	382	217	2500	15	170	48	555	140
TOTAL	118566.8	**	**	54000	**	2520	**	11200	**
WTD.AVG.	648	300	169	**	7.9	**	35	**	110

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							661	415	350	366	744	883
2							660	375	369	357	773	898
3							424	410	429	351	790	754
4							419	428	450	444	809	385
5							415	417	281	423	816	510
6							410	412	261	412	832	622
7							413	404	242	407	836	337
8							419	574	302	389	828	366
9							425	350	312	495	845	364
10							384	358	324	587	870	372
11							595	320	321	615	891	378
12							663	410	300	645	670	386
13							705	423	356	677	361	397
14							734	431	375	683	333	415
15							717	489	392	690	381	425
16							668	595	408	697	429	432
17							665	345	413	702	493	430
18							656	210	450	707	540	425
19							654	225	373	710	635	454
20							460	242	351	711	664	471
21							415	264	347	710	698	481
22							477	289	346	689	732	489
23							525	315	348	700	759	328
24							551	340	340	710	781	325
25							583	285	330	676	802	349
26							601	382	325	652	815	399
27							611	413	332	639	842	552
28							622	369	337	655	835	610
29							423	368	340	670	826	628
30							417	363	345	698	848	647
31							---	375	---	717	870	---
MEAN							546	374	348	599	721	484

08064100 Chambers Creek near Rice, Tex.--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							22.0	---	---	28.0	33.0	---
2							22.0	---	24.0	28.0	31.0	---
3							20.0	---	25.0	28.0	---	---
4							21.0	22.0	26.0	29.0	29.0	---
5							---	---	23.0	27.0	36.0	---
6							22.0	23.0	23.0	---	29.0	---
7							22.0	23.0	25.0	29.0	30.0	25.0
8							22.0	25.0	25.0	---	---	25.0
9							---	21.0	26.0	31.0	---	25.0
10							19.0	---	27.0	31.0	---	26.0
11							19.0	23.0	24.0	30.0	---	28.0
12							19.0	24.0	23.0	---	---	28.0
13							21.0	24.0	27.0	30.0	---	26.0
14							21.0	24.0	---	---	---	26.0
15							22.0	---	---	---	---	27.0
16							---	---	26.0	---	---	28.0
17							20.0	---	26.0	---	---	28.0
18							21.0	---	27.0	---	---	28.0
19							20.0	---	28.0	31.0	---	27.0
20							19.0	---	28.0	31.0	---	26.0
21							---	---	28.0	32.0	---	---
22							20.0	---	28.0	29.0	---	27.0
23							---	---	28.0	31.0	---	26.0
24							24.0	---	29.0	32.0	---	26.0
25							24.0	---	29.0	30.0	---	27.0
26							25.0	23.0	---	32.0	---	27.0
27							25.0	23.0	---	29.0	---	26.0
28							23.0	23.0	---	32.0	---	26.0
29							23.0	25.0	---	32.0	---	27.0
30							22.0	24.0	29.0	32.0	---	27.0
31							---	---	---	33.0	---	---
MEAN							21.5	23.5	26.5	30.5	31.5	26.5

08064700 TEHUACANA CREEK NEAR STREETMAN, TX

LOCATION.--Lat 31°50'54", long 96°17'23", Freestone County, Hydrologic Unit 12030201, at downstream side of bridge on U.S. Highway 75, 2.8 mi southeast of Streetman, 3.1 mi downstream from Chicago, Rock Island, and Pacific Railroad Co. bridge, 3.8 mi upstream from Caney Creek, and 25 mi upstream from mouth.

DRAINAGE AREA.--142 mi^2.

PERIOD OF RECORD.--April 1968 to current year.
Water-quality records.--Chemical analyses: February 1968 to September 1985.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 287.58 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 27 to Dec. 11. Records fair except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--18 years, 70.7 ft^3/s (6.76 in/yr), 51,220 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,600 ft^3/s Feb. 3, 1986 (gage height, 27.71 ft); no flow at times most years.
Maximum stage since at least 1932, that of Feb. 3, 1986.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in September 1932 reached a stage of about 24 ft, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 19	1800	2,950	21.31	Feb. 3	2300	*50,600	*27.71
Nov. 24	1830	4,810	22.90	May 10	2045	2,620	21.12

Minimum discharge, 0.02 ft^3/s Aug. 17-19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	25	50	14	2.0	13	1.7	25	590	1.1	.05	.26
2	.01	5.1	22	12	2.6	13	1.8	261	146	.92	.05	.94
3	.17	2.0	11	11	10500	13	2.5	90	60	.86	.04	.80
4	.09	1.1	5.5	10	12800	14	3.5	33	18	.75	.05	.60
5	.05	.85	3.0	8.9	537	15	3.7	13	48	.66	.05	.54
6	.05	.63	1.8	7.7	831	14	4.1	6.6	864	.60	.05	.76
7	.04	.60	1.4	6.9	204	13	3.5	4.8	399	.53	.05	.71
8	.03	1.0	1.1	6.4	104	12	3.1	3.5	74	.49	.05	.61
9	.03	.76	.96	6.3	83	11	2.4	19	32	.44	.04	.55
10	.03	.66	.80	5.8	305	11	9.4	735	16	.34	.03	.52
11	.03	438	7400	5.6	140	11	123	804	194	.26	.04	.47
12	.03	273	2250	5.0	81	12	43	108	306	.20	.06	.43
13	.03	24	287	4.9	60	13	16	40	56	.15	.04	.43
14	.11	7.1	140	4.7	51	11	8.1	19	17	.13	.03	.43
15	.11	2.0	84	4.6	44	11	4.4	9.1	6.6	.10	.03	.43
16	.05	2.2	59	4.6	39	9.6	3.0	5.5	3.5	.07	.03	.42
17	.06	505	48	6.3	36	6.2	2.2	102	108	.06	.02	.40
18	3.6	157	44	34	33	6.3	1.9	745	47	.05	.02	.37
19	1090	23	37	19	30	4.8	20	115	16	.05	.03	.81
20	480	6.2	32	8.7	27	3.8	419	40	24	.05	.03	2.1
21	17	2.5	30	5.7	23	3.1	93	15	15	.05	.03	.77
22	3.4	.81	28	4.5	20	2.9	33	7.0	5.7	.43	.03	.55
23	1.4	.37	25	3.7	19	2.7	13	4.0	3.6	1.4	.04	.46
24	.77	2300	22	3.4	18	2.4	6.7	3.5	2.8	1.4	.10	.42
25	.55	1450	20	3.2	17	2.4	4.2	148	2.2	.64	.14	.40
26	.41	214	19	2.7	17	2.3	3.1	294	1.8	.34	.14	.36
27	.30	800	18	2.6	16	2.2	2.6	45	1.7	.18	.14	.34
28	.62	1100	17	2.4	14	2.2	5.8	15	1.5	.13	.22	.33
29	1190	350	16	2.4	---	2.2	23	5.2	1.3	.08	.39	.33
30	280	120	15	2.1	---	2.1	8.4	2.6	1.1	.07	.29	.35
31	134	---	14	2.0	---	1.8	---	56	---	.05	.23	---
TOTAL	3207.77	7812.88	10702.56	221.1	26053.6	244.0	869.1	3773.8	3061.8	12.58	2.54	16.89
MEAN	103	260	345	7.13	930	7.87	29.0	122	102	.41	.08	.56
MAX	1190	2300	7400	34	12800	15	419	804	864	1.4	.39	2.1
MIN	.03	.37	.80	2.0	2.0	1.8	1.7	2.6	1.1	.05	.02	.26
CFSM	.73	1.83	2.43	.05	6.55	.06	.20	.86	.72	.00	.00	.00
IN.	.84	2.05	2.80	.06	6.83	.06	.23	.99	.80	.00	.00	.00
AC-FT	6360	15500	21230	439	51680	484	1720	7490	6070	25	5.0	34

CAL YR 1985 TOTAL 30179.42 MEAN 82.7 MAX 7400 MIN .00 CFSM .58 IN. 7.91 AC-FT 59860
WTR YR 1986 TOTAL 55978.62 MEAN 153 MAX 12800 MIN .02 CFSM 1.08 IN. 14.66 AC-FT 111000

08064800 CATFISH CREEK NEAR TENNESSEE COLONY, TX

LOCATION.--Lat 31°52'51", long 95°52'07", Anderson County, Hydrologic Unit 12030201, on left bank 35 ft downstream from bridge on U.S. Highway 287, 2 mi upstream from Beaver Creek, 3.5 mi northwest of Tennessee Colony, 12 mi downstream from Coon Creek Lake, and 12 mi upstream from mouth.

DRAINAGE AREA.--207 mi².

PERIOD OF RECORD.--April 1962 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 234.93 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharge: Nov. 11-19 and May 1. Records good. Some regulation upstream by Coon Creek Lake. No known diversions above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--24 years, 101 ft³/s (73,170 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,550 ft³/s May 11, 1968 (gage height, 15.90 ft); minimum daily, 0.8 ft³/s Aug. 19-21, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1927, 22 ft in June 1944 as a result of dam failure at Coon Creek Lake, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 13	0400	1,590	11.28	May 12	1400	1,610	11.29
Feb. 5	0500	*2,500	*12.06				

Minimum daily discharge, 5.4 ft³/s Oct. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	271	599	110	69	105	60	168	204	60	7.5	8.0
2	21	271	653	114	69	107	57	172	229	55	7.0	8.7
3	17	222	732	114	361	101	55	155	295	50	6.8	8.7
4	11	166	553	106	1730	94	55	165	273	51	7.0	8.6
5	8.1	141	414	100	2320	93	56	177	247	79	10	8.7
6	6.9	121	322	98	1310	95	64	153	355	190	12	9.0
7	6.8	101	258	98	742	93	540	126	337	239	11	9.5
8	6.2	89	216	93	548	90	873	106	418	166	8.9	9.7
9	5.6	79	180	91	453	86	536	178	577	120	7.8	10
10	5.4	73	156	91	397	85	399	306	519	91	7.5	10
11	6.5	150	327	89	362	86	282	837	476	73	7.4	9.8
12	7.8	200	825	86	336	107	227	1460	423	58	8.9	11
13	8.4	250	1490	86	291	106	213	1090	426	44	8.5	10
14	9.6	280	953	85	251	118	277	656	419	34	7.9	10
15	30	260	604	83	216	124	284	447	329	28	7.1	11
16	40	220	457	80	192	115	230	301	276	25	6.8	11
17	47	220	378	92	172	105	176	245	400	23	7.2	10
18	51	190	309	109	157	102	136	346	395	21	7.2	10
19	112	180	259	127	154	100	119	828	364	18	7.1	10
20	112	214	222	138	152	99	130	946	335	16	7.1	10
21	166	206	193	126	144	102	149	594	242	16	7.0	11
22	410	204	173	107	136	96	276	425	177	19	7.1	11
23	323	195	160	98	128	93	272	308	137	23	7.8	11
24	234	249	149	97	118	109	193	225	113	21	9.8	11
25	175	272	138	92	111	106	144	176	97	18	8.8	11
26	139	441	130	87	106	89	116	156	87	14	8.1	11
27	114	809	127	84	103	79	103	162	83	12	7.8	11
28	98	707	118	81	103	73	119	339	77	11	7.7	10
29	131	728	108	75	---	69	110	351	69	9.7	7.9	11
30	133	603	105	70	---	66	131	269	63	8.7	8.1	11
31	213	---	108	69	---	63	---	225	---	8.1	7.9	---
TOTAL	2666.3	8112	11416	2976	11231	2956	6382	12092	8442	1601.5	248.7	302.7
MEAN	86.0	270	368	96.0	401	95.4	213	390	281	51.7	8.02	10.1
MAX	410	809	1490	138	2320	124	873	1460	577	239	12	11
MIN	5.4	73	105	69	69	63	55	106	63	8.1	6.8	8.0
AC-FT	5290	16090	22640	5900	22280	5860	12660	23980	16740	3180	493	600

CAL YR 1985 TOTAL 42583.4 MEAN 117 MAX 1490 MIN 2.8 AC-FT 84460
WTR YR 1986 TOTAL 68426.2 MEAN 187 MAX 2320 MIN 5.4 AC-FT 135700

08065000 TRINITY RIVER NEAR OAKWOOD, TX

LOCATION.--Lat 31°38'54", long 95°47'21", Anderson County, Hydrologic Unit 12030201, on left bank at downstream side of bridge on U.S. Highways 79 and 84, 1.5 mi upstream from Missouri Pacific Railroad Co. bridge, 6 mi northeast of Oakwood, and at mile 313.4.

DRAINAGE AREA.--12,833 mi².

PERIOD OF RECORD.--October 1923 to September 1924 (monthly discharge only), October 1924 to current year. Records of January 1905 to September 1923, published in WSP 850 and 878, have been found unreliable and should not be used. Gage-height records collected in this vicinity since 1904 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1442: 1934. See also PERIOD OF RECORD. WSP 1922: Drainage area. WRD TX-81-1: 1980 (M,m).

GAGE.--Water-stage recorder. Datum of gage is 175.06 ft above National Geodetic Vertical Datum of 1929. Prior to July 1932, nonrecording gage at site 1.5 mi downstream at datum 1.06 ft lower. July 15, 1932, to Oct. 7, 1934, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 24 to Dec. 4. Records good. Twenty-one major reservoirs with a capacity of 4,200,000 acre-ft, of which 1,362,000 acre-ft is for flood control, partly regulate the flow. Streamflow is affected at times by discharge from the flood-detention pools of 252 floodwater-retarding structures with a combined detention capacity of 183,300 acre-ft. These structures control runoff from 614 mi² in the Richland, Chambers, and Tehuacana Creeks drainage basins. The industrial Generating Co., Fairfield, makes a minor diversion from the river at a site about 34 mi upstream. The diversion to Big Brown Lake is used to maintain the normal pool elevations for that lake. Gage-height telemeter at station.

AVERAGE DISCHARGE.--30 years (water years 1924-53) unregulated, 5,045 ft³/s (3,655,000 acre-ft/yr); 33 years (water years 1954-86) regulated, 4,517 ft³/s (3,273,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 153,000 ft³/s Apr. 29, 1942 (gage height, 51.64 ft); minimum observed, 28 ft³/s Aug. 24, 1925.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1890 reached a stage of 53 ft (discharge about 180,000 ft³/s) and was the highest since that date, from information in local newspapers. Flood of June 4, 1908, reached a stage of 52.2 ft, present site and datum, from information by the National Weather Service (discharge about 164,000 ft³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 39,000 ft³/s June 13 at 1100 hours (gage height, 43.16 ft); minimum daily, 699 ft³/s Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	762	10600	19000	3000	1110	5600	1040	3600	8460	12500	898	799
2	1570	9540	20000	2960	1100	4850	1020	4370	9680	11600	883	788
3	2960	6880	19000	2780	1600	3680	997	6420	11200	10600	856	752
4	2280	4620	16800	2600	10400	2770	1030	7930	12500	9610	846	1050
5	1280	3610	11700	2220	16100	2290	1090	7830	13300	9010	898	3880
6	1090	3150	6390	1930	20600	2100	3340	6040	14100	8780	1000	5020
7	833	2800	4210	1850	25600	1910	7510	4120	16100	8560	2470	3710
8	786	2550	3410	1790	30900	1640	8980	3170	17700	7870	2710	2660
9	738	2120	2600	1690	33600	1450	9590	3100	19200	6430	1710	3050
10	704	1880	2080	1560	32000	1360	9090	6490	21000	5490	1130	3040
11	699	2160	4170	1420	29000	1340	6790	10300	25600	5130	1130	2780
12	716	2800	11100	1310	26500	1370	4490	12900	35700	4960	1090	2460
13	731	5120	14800	1250	23800	1430	4050	14700	38700	5050	1280	2750
14	798	4270	17700	1210	20600	1570	5820	16000	36300	5320	2270	3480
15	962	2950	22000	1200	15500	1700	6990	16900	33400	5580	2140	3900
16	914	2290	33700	1200	10600	1630	7230	17200	31400	5680	1520	3870
17	917	2330	37100	1260	8630	1520	6350	16700	30500	5490	1110	3100
18	1200	4930	32300	1360	8180	1570	5360	14900	28500	5020	928	2180
19	1360	7040	27800	1360	8090	1540	4830	14300	26800	4570	863	1800
20	4840	5680	24200	1350	8110	1390	5350	15100	25100	3780	812	1450
21	9850	4790	19500	1320	8150	1500	7660	16300	23300	2610	778	1220
22	12000	3810	12700	1280	8210	1930	9030	17300	21400	1740	792	1070
23	13300	2640	6920	1240	8130	1750	10100	18400	19600	1920	785	1010
24	14700	3600	4750	1200	7840	1420	10700	19500	18200	3100	786	953
25	16200	5600	4070	1250	7480	1270	10300	20400	17100	2860	782	960
26	17300	8380	3730	1270	7080	1200	7650	20900	16200	2230	759	933
27	17200	12000	3540	1240	6560	1140	5080	20700	15500	1700	751	884
28	13500	15000	3400	1170	6020	1110	4250	19800	14800	1410	922	846
29	8130	17000	3250	1110	---	1100	3810	17800	14000	1140	975	818
30	7680	18000	3170	1090	---	1090	3550	14000	13300	973	863	794
31	9620	---	3110	1090	---	1070	---	9640	---	911	803	---
TOTAL	165620	178140	398200	48560	391490	57290	173077	396810	628640	161624	35540	62007
MEAN	5343	5938	12850	1566	13980	1848	5769	12800	20950	5214	1146	2067
MAX	17300	18000	37100	3000	33600	5600	10700	20900	38700	12500	2710	5020
MIN	699	1880	2080	1090	1100	1070	997	3100	8460	911	751	752
AC-FT	328500	353300	789800	96320	776500	113600	343300	787100	1247000	320600	70490	123000

CAL YR 1985 TOTAL 2054105 MEAN 5628 MAX 37100 MIN 575 AC-FT 4074000
WTR YR 1986 TOTAL 2696998 MEAN 7389 MAX 38700 MIN 699 AC-FT 5349000

08065200 UPPER KEECHI CREEK NEAR OAKWOOD, TX

LOCATION.--Lat 31 34'11", long 95 53'17", Leon County, Hydrologic Unit 12030201, at right bank 20 ft downstream from bridge on U.S. Highway 79, 1.9 mi upstream from Missouri Pacific Railroad Co. bridge, 2 mi southwest of Oakwood, 11 mi upstream from Buffalo Creek, and 21 mi upstream from mouth.

DRAINAGE AREA.--150 mi^2.

PERIOD OF RECORD.--April 1962 to current year.
Water-quality records: Chemical analyses: June 1962 to April 1964, November 1967 to September 1975.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 240.11 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Feb. 22-26, Mar. 20-22, and July 17-19. Records good. No known diversions or regulation above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--24 years (water years 1963-86), 74.9 ft^3/s (6.78 in/yr), 54,270 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,000 ft^3/s May 16, 1965 (gage height, 14.91 ft), and Apr. 25, 1966, from rating curve extended above 5,800 ft^3/s; maximum gage height, 15.46 ft Oct. 31, 1974; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1900, about 21 ft in 1932, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 4	1400	*5,260	*14.09	No other peak greater than base discharge.			

Minimum discharge, 0.01 ft^3/s Aug. 19-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	52	193	22	15	18	11	102	310	6.7	1.0	1.4
2	2.3	24	360	21	16	18	10	226	421	5.5	.55	1.5
3	1.4	19	552	21	94	20	10	325	425	4.9	.30	1.4
4	.86	11	185	21	2400	28	12	409	446	4.7	.26	1.3
5	.41	6.2	57	18	1580	26	16	156	217	4.1	.15	1.9
6	.26	4.5	42	17	820	24	14	49	325	3.9	.13	3.4
7	.21	3.0	35	18	324	20	13	36	1100	3.8	.21	4.3
8	.19	2.4	32	17	128	18	15	31	814	3.4	.32	5.9
9	.17	1.9	30	17	95	20	36	56	439	3.0	.27	5.4
10	.16	1.8	29	18	138	19	131	144	533	2.7	.14	3.2
11	.15	108	304	19	185	17	216	230	738	2.5	.10	2.7
12	.15	91	1120	18	114	21	109	242	379	2.2	.10	8.4
13	.15	58	1020	18	66	23	49	231	482	2.0	.10	5.5
14	.29	26	553	19	55	20	33	51	353	1.7	.09	3.0
15	2.6	16	192	18	49	19	23	32	63	1.5	.08	1.7
16	.88	16	88	17	45	19	18	25	46	1.3	.08	1.1
17	1.8	18	64	39	44	19	15	65	71	1.1	.08	.60
18	1.5	20	52	51	42	23	13	333	54	1.0	.07	.32
19	1.1	71	43	36	39	31	25	489	37	1.0	.03	.38
20	2.6	76	38	29	37	26	272	657	28	1.5	.01	.38
21	17	56	34	25	34	19	367	180	23	2.0	.01	.23
22	12	35	33	22	30	17	283	41	19	2.3	.01	.16
23	7.3	19	31	18	27	15	49	28	17	2.6	.04	.10
24	4.0	387	29	17	24	13	30	26	15	2.5	.10	.09
25	2.1	859	25	17	21	13	23	81	13	2.2	.14	.08
26	1.1	900	23	17	20	12	19	209	11	2.3	.21	.07
27	.64	593	22	16	21	12	33	115	9.5	2.4	.17	.05
28	8.5	345	23	15	19	12	172	36	8.4	2.4	.28	.04
29	88	859	22	15	---	12	179	25	7.5	2.2	.45	.04
30	89	538	22	14	---	11	72	20	7.3	2.0	.90	.03
31	83	---	22	14	---	11	---	81	---	1.6	1.6	---
TOTAL	331.32	5216.8	5275	644	6482	576	2268	4731	7411.7	83.0	7.98	54.67
MEAN	10.7	174	170	20.8	232	18.6	75.6	153	247	2.68	.26	1.82
MAX	89	900	1120	51	2400	31	367	657	1100	6.7	1.6	8.4
MIN	.15	1.8	22	14	15	11	10	20	7.3	1.0	.01	.03
CFSM	.07	1.16	1.13	.14	1.55	.12	.50	1.02	1.65	.02	.00	.01
IN.	.08	1.29	1.31	.16	1.61	.14	.56	1.17	1.84	.02	.00	.01
AC-FT	657	10350	10460	1280	12860	1140	4500	9380	14700	165	16	108

CAL YR 1985 TOTAL 26422.99 MEAN 72.4 MAX 3490 MIN .00 CFSM .48 IN. 6.55 AC-FT 52410
WTR YR 1986 TOTAL 33081.47 MEAN 90.6 MAX 2400 MIN .01 CFSM .60 IN. 8.20 AC-FT 65620

08065350 TRINITY RIVER NEAR CROCKETT, TX
(National stream-quality accounting network)

LOCATION.--Lat 31°20'18", long 95°39'22", Houston-Leon County line, Hydrologic Unit 12030201, on left bank at an abandoned bridge abutment near left end of an abandoned lock and dam, 1,000 ft upstream from State Highway 7, 6.9 mi downstream from Upper Keechi Creek, 11.9 mi west of Crockett, and at mile 265.4.

DRAINAGE AREA.--13,911 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 141.15 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 13, 1983, water-stage recorder at site 1,000 ft downstream at datum 4.56 ft lower. Gage-height telemeter at station.

REMARKS.--Estimated daily discharges: Dec. 6, 14, Dec. 17 to Jan. 6, June 9 to July 1, and Aug. 18-27. Records fair except those for Dec. 17 to Jan. 6, which are poor. For statement regarding regulation by upstream reservoirs, see station 08065000. Flow from 44 mi^2 of Elkhart Creek basin is affected by storage in Houston County Lake near Crockett (capacity 19,500 acre-ft). There are many diversions above station for irrigation, municipal, and industrial uses.

AVERAGE DISCHARGE.--22 years (water years 1965-86), 5,716 ft^3/s (4,141,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 78,000 ft^3/s May 15, 1969 (gage height, 52.24 ft), at former site and datum; minimum, 275 ft^3/s Aug. 13, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1900, 56.1 ft Apr. 30 or May 1, 1942, at former site and datum from information by Texas Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 35,900 ft^3/s Feb. 12 at 0900 hours (gage height, 38.12 ft); minimum daily, 749 ft^3/s Oct. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	905	13100	20100	3330	1540	6180	1230	5000	10700	14600	1070	986
2	939	13200	21500	3250	1560	5540	1200	6290	9990	13800	1040	985
3	2390	11000	22000	3150	1580	4530	1160	7050	11600	12800	1030	984
4	3120	7050	21800	3050	6180	3360	1160	8440	13200	11600	1010	934
5	2400	4550	20100	2950	16100	2630	1190	9400	14500	10600	987	1740
6	1410	3720	13900	2700	23200	2370	1300	8620	15900	10000	969	4200
7	1070	3280	6930	2360	26000	2320	4350	6180	17000	9750	1250	4760
8	936	3030	4380	2300	28600	2150	8190	4060	18500	9360	2580	3370
9	869	2740	3580	2260	31400	1910	9800	3250	20300	8260	2440	2820
10	804	2340	2880	2170	33700	1750	10500	3830	21700	6670	1730	3040
11	758	2400	3670	2040	35300	1650	9770	8210	22700	5710	1330	3010
12	749	3010	10100	1900	35800	1650	6960	12000	24200	5290	1330	2810
13	749	3950	16300	1790	35300	1700	4730	14300	27100	5160	1300	2600
14	867	5540	20200	1710	33400	1750	4980	15800	30200	5310	1630	2910
15	1210	4380	22400	1680	29600	1880	6530	16900	32200	5670	2380	3430
16	1210	3440	25300	1680	22400	1970	7450	17500	32700	5960	2220	3750
17	1030	2940	32000	1740	13800	1880	7320	17900	33800	6000	1710	3630
18	1090	3370	34000	1920	10100	1810	6150	18800	34000	5610	1340	2940
19	1400	6410	33000	2060	9210	1900	5210	17500	32600	5020	1100	2320
20	2190	7480	31000	2030	8990	1830	6090	16400	30700	4430	1030	2020
21	7110	5890	28000	1940	8960	1690	7250	16800	28300	3460	963	1690
22	12200	5010	21000	1880	9010	1850	9150	17900	26000	2440	957	1450
23	15100	3960	14000	1800	8990	2140	10500	18800	23500	1950	945	1310
24	16300	11400	8000	1720	8780	1860	11600	19200	21400	2440	939	1220
25	17400	21300	5000	1690	8390	1490	12000	20200	19700	2990	933	1140
26	18600	23500	4200	1730	7930	1380	10600	20900	18400	2650	933	1120
27	19500	20200	4000	1720	7400	1330	7370	21100	17400	2180	933	1130
28	19300	18600	3810	1660	6750	1300	6460	21100	16700	1840	964	1060
29	15600	18500	3660	1610	---	1270	5330	20500	16000	1550	1190	1020
30	10200	19000	3550	1530	---	1260	4450	18700	15300	1330	1220	981
31	11100	---	3450	1520	---	1240	---	14900	---	1170	1050	---
TOTAL	188506	254370	463810	64870	469970	67570	189980	427530	656290	185600	40503	65360
MEAN	6081	8479	14960	2093	16780	2180	6333	13790	21880	5987	1307	2179
MAX	19500	23500	34000	3330	35800	6180	12000	21100	34000	14600	2580	4760
MIN	749	2340	2880	1520	1540	1240	1160	3250	9990	1170	933	934
AC-FT	373900	504500	920000	128700	932200	134000	376800	848000	1302000	368100	80340	129600

CAL YR 1985 TOTAL 2490371 MEAN 6823 MAX 34000 MIN 718 AC-FT 4940000
WTR YR 1986 TOTAL 3074359 MEAN 8423 MAX 35800 MIN 749 AC-FT 6098000

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: February 1964 to current year. Chemical and biochemical analyses: February 1968 to current year. Pesticide analyses: October 1971 to July 1981. Sediment records: November 1972 to September 1977.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1964 to current year.
pH: March 1975 to current year.
WATER TEMPERATURES: February 1964 to September 1971, March 1975 to current year.
DISSOLVED OXYGEN: March 1975 to current year.

INSTRUMENTATION.--Beginning March 1975, a four-parameter water-quality monitor records temperature, DO, pH, and specific conductance continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum or minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 2,370 microsiemens Sept. 22, 1964; minimum, 105 microsiemens July 28, 1979.
pH: Maximum, 9.6 units Aug. 11, 12, 1981; minimum, 5.9 units Aug. 12, 1977.
WATER TEMPERATURES (1975-86): Maximum, 37.0°C July 4, 1970, Sept. 4, 1978; minimum, 1.0°C Jan. 17, 1978, Nov. 24, 1984.
DISSOLVED OXYGEN: Maximum, 19.3 mg/L Feb. 10, 1981; minimum, 0.0 mg/L Apr. 20, 1976.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 724 microsiemens Oct. 17, 18; minimum, 135 microsiemens Nov. 24.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 21...	1350	5730	380	7.80	18.0	50	150	9.6	102	4.4	120	24
JAN 06...	1400	2480	469	7.70	9.5	15	58	10.6	--	4.2	150	34
APR 04...	1245	1160	659	7.80	20.0	20	6.8	11.1	124	3.2	170	41
MAY 16...	0845	19600	303	7.80	24.0	70	150	4.9	59	1.6	110	20
JUL 11...	1140	5690	406	7.30	29.0	15	130	5.9	--	1.1	140	15
AUG 28...	1030	934	670	7.70	28.0	15	2.3	7.9	--	1.4	160	50

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
NOV 21...	41	4.5	29	1	6.7	97	48	26	0.3	8.5	220
JAN 06...	50	5.3	37	1	5.3	113	58	40	0.4	9.9	270
APR 04...	57	6.8	65	2	7.5	129	84	67	0.7	6.6	370
MAY 16...	39	3.4	18	0.8	5.1	91	35	15	0.3	6.7	180
JUL 11...	47	4.4	24	0.9	5.3	120	37	22	0.4	6.7	220
AUG 28...	55	5.5	65	2	8.7	110	83	73	0.9	7.2	360

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DISSOLVED (UG/L AS AS)
NOV 21...	582	69	1.04	0.06	1.10	0.09	0.91	1.0	0.44	15	--
JAN 06...	128	20	2.23	0.17	2.40	0.63	0.77	1.4	0.18	5.0	4
APR 04...	41	9	--	0.01	<0.10	0.03	1.4	1.4	1.30	11	--
MAY 16...	259	32	0.96	0.14	1.10	0.24	0.76	1.0	0.45	10	--
JUL 11...	354	42	1.19	0.01	1.20	0.24	2.9	3.1	0.49	8.3	--
AUG 28...	38	18	4.35	0.05	4.40	0.07	0.93	1.0	1.70	8.4	6

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV											
21...	--	--	--	--	--	--	--	--	--	--	--
JAN											
06...	70	<1	<10	5	18	<1	23	0.2	<1	<1	8
APR											
04...	--	--	--	--	--	--	--	--	--	--	--
MAY											
16...	--	--	--	--	--	--	--	--	--	--	--
JUL											
11...	--	--	--	--	--	--	--	--	--	--	--
AUG											
28...	98	6	<10	2	17	<5	33	<0.1	<1	<1	14

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1985	188506	347	199	101000	27	13600	42	21600	110
NOV.	1985	254370	295	170	117000	21	14500	36	24500	100
DEC.	1985	463810	244	142	177000	16	20300	29	36500	90
JAN.	1986	64870	550	313	54800	49	8650	70	12200	150
FEB.	1986	469970	323	186	236000	24	30100	39	49700	110
MAR.	1986	67570	533	304	55400	47	8550	67	12300	150
APR.	1986	189980	407	234	120000	32	16500	50	25700	130
MAY	1986	427530	328	189	218000	24	27500	40	45900	110
JUNE	1986	656290	308	178	315000	22	39200	37	66000	110
JULY	1986	185600	372	214	107000	28	14100	45	22800	120
AUG.	1986	40503	562	320	35000	50	5520	71	7770	150
SEPT	1986	65360	481	275	48500	41	7170	60	10600	140
TOTAL		3074359	**	**	1585000	**	206000	**	336000	**
WTD.AVG.		8423	332	191	**	25	**	40	**	110

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	615	604	611	329	298	314	279	241	260	---	---	335
2	681	618	658	302	286	291	289	235	268	---	---	360
3	720	676	694	376	296	330	290	249	272	---	---	390
4	723	696	707	350	322	339	286	205	256	---	---	419
5	722	632	696	348	344	346	238	224	231	---	---	446
6	621	526	546	356	348	352	321	219	257	---	---	473
7	543	477	496	362	356	359	362	323	347	501	493	496
8	509	483	497	377	362	370	363	359	362	532	501	518
9	513	498	502	395	378	387	374	362	370	544	481	530
10	508	494	500	407	395	401	388	373	379	550	540	544
11	518	494	500	431	406	412	389	313	351	554	547	551
12	527	511	520	422	370	385	361	280	317	566	551	558
13	556	529	541	426	384	410	---	---	250	591	567	582
14	596	559	578	454	336	413	---	---	200	607	591	599
15	608	555	580	327	280	291	---	---	190	637	608	623
16	671	570	623	356	289	320	---	---	204	644	637	641
17	724	681	709	420	356	388	225	218	221	637	629	633
18	724	689	701	475	422	450	232	222	227	643	633	639
19	687	654	673	521	447	472	233	227	230	646	627	637
20	687	632	664	525	351	430	237	227	232	633	623	628
21	692	318	509	364	354	361	245	233	238	644	629	635
22	311	252	277	395	352	374	251	239	244	656	644	649
23	264	252	258	363	346	352	255	245	249	659	651	655
24	273	252	263	370	135	237	255	247	251	655	649	652
25	283	272	278	172	151	162	250	236	246	652	645	649
26	289	283	286	235	157	193	250	235	242	659	649	654
27	---	---	295	276	243	259	256	251	253	658	643	650
28	---	---	308	276	244	269	261	251	256	661	641	652
29	---	---	317	656	237	298	257	250	253	668	660	664
30	---	---	324	254	246	249	---	---	280	664	652	660
31	344	330	336	---	---	---	---	---	310	649	642	644
MONTH	724	252	498	656	135	340	389	205	266	668	481	573

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	651	640	646	442	435	438	641	615	626	459	389	428
2	682	652	667	447	439	444	664	641	649	397	373	382
3	686	665	675	455	446	452	678	664	672	490	402	434
4	663	396	560	472	451	459	683	679	681	478	347	437
5	408	241	301	473	444	447	691	684	686	445	345	393
6	331	202	242	526	447	468	709	692	701	439	384	403
7	201	187	194	560	480	503	---	---	585	432	365	379
8	219	199	209	572	510	527	---	---	400	390	370	378
9	234	220	228	576	533	544	569	426	483	405	389	395
10	244	233	239	608	549	569	433	400	416	446	408	430
11	292	243	289	622	570	578	413	378	393	445	246	377
12	305	294	300	613	569	577	403	377	388	323	246	287
13	321	305	312	571	555	566	429	403	412	285	238	248
14	335	322	330	568	554	562	478	428	448	291	253	277
15	344	336	340	569	550	559	471	348	415	309	291	301
16	402	345	375	563	549	555	482	418	454	326	309	316
17	430	407	420	---	---	568	486	371	407	340	327	334
18	428	417	422	---	---	575	391	380	384	336	328	331
19	470	419	432	---	---	583	401	385	394	359	328	344
20	605	436	449	---	---	589	418	348	373	341	250	272
21	459	297	433	---	---	598	385	356	365	297	245	254
22	521	429	442	---	---	605	425	389	413	283	250	260
23	589	427	443	---	---	612	395	292	343	307	260	277
24	590	335	436	---	---	620	396	327	355	315	283	298
25	547	426	440	---	---	625	351	324	335	360	308	333
26	468	421	433	634	624	629	354	340	348	369	337	345
27	432	419	423	649	624	638	365	352	358	361	349	353
28	440	425	430	645	630	641	411	317	356	374	334	349
29	---	---	---	629	595	609	467	410	438	368	318	337
30	---	---	---	613	597	607	461	448	455	---	---	311
31	---	---	---	616	608	612	---	---	---	---	---	387
MONTH	686	187	397	649	435	560	709	292	458	490	238	344

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	436	---	---	370	562	516	539	---	---	675
2	---	---	479	---	---	369	550	516	526	---	---	604
3	---	---	485	---	---	364	582	526	558	---	---	585
4	---	---	470	---	---	352	592	567	579	---	---	625
5	---	---	450	---	---	345	579	514	519	---	---	640
6	---	---	427	341	335	338	579	533	557	---	---	584
7	---	---	400	358	340	352	636	580	615	---	---	532
8	---	---	351	374	348	355	668	605	647	---	---	485
9	---	---	324	357	347	352	686	593	644	---	---	445
10	---	---	301	380	329	344	679	609	638	402	335	398
11	---	---	275	406	382	390	617	508	560	436	398	417
12	---	---	246	405	384	393	509	473	486	465	411	437
13	---	---	224	396	375	385	---	---	558	480	420	449
14	---	---	228	397	372	384	---	---	581	422	396	408
15	---	---	233	395	377	385	---	---	556	478	375	410
16	---	---	238	---	---	390	---	---	535	479	398	442
17	---	---	241	---	---	310	---	---	509	396	375	380
18	---	---	244	---	---	320	551	430	489	378	366	372
19	---	---	255	381	373	377	497	400	446	483	375	416
20	---	---	270	402	381	394	478	408	428	469	447	459
21	---	---	281	420	396	401	484	436	468	479	462	469
22	---	---	299	414	396	402	524	474	488	489	476	481
23	---	---	313	456	405	424	543	485	493	493	479	487
24	---	---	328	466	433	442	522	487	494	541	527	534
25	---	---	340	506	434	453	541	495	513	534	491	512
26	379	327	350	482	372	402	604	533	570	569	535	554
27	350	327	343	462	363	397	648	605	612	595	563	574
28	390	374	385	540	468	510	---	---	625	629	587	608
29	394	370	383	581	536	562	---	---	637	649	629	641
30	397	357	371	588	555	571	---	---	650	661	648	656
31	---	---	---	550	516	532	---	---	664	---	---	---
MONTH	397	327	332	588	329	399	686	400	554	661	335	509

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.60	7.60	7.60	7.60	7.50	7.60	7.70	7.60	7.60	---	---	---
2	7.60	7.50	7.60	7.60	7.50	7.60	---	---	---	---	---	---
3	7.60	7.50	7.60	7.60	7.50	7.60	---	---	---	---	---	---
4	7.60	7.30	7.40	7.70	7.40	7.60	---	---	---	---	---	---
5	7.30	7.20	7.30	7.40	7.40	7.40	---	---	---	---	---	---
6	7.40	7.30	7.30	7.50	7.40	7.40	---	---	---	---	---	---
7	7.50	7.40	7.40	7.50	7.50	7.50	---	---	---	7.60	7.50	7.50
8	7.60	7.50	7.50	7.50	7.50	7.50	7.40	7.30	7.30	7.50	7.50	7.50
9	7.60	7.50	7.50	7.50	7.50	7.50	7.40	7.40	7.40	7.50	7.50	7.50
10	7.60	7.50	7.60	7.50	7.50	7.50	7.40	7.40	7.40	7.50	7.50	7.50
11	7.70	7.50	7.60	7.50	7.40	7.50	7.40	7.20	7.30	7.50	7.50	7.50
12	7.70	7.50	7.60	7.40	7.20	7.30	7.40	7.20	7.30	7.50	7.50	7.50
13	7.70	7.60	7.60	7.40	7.30	7.40	---	---	---	7.50	7.40	7.50
14	7.70	7.60	7.60	7.40	7.30	7.30	---	---	---	7.50	7.50	7.50
15	7.70	7.40	7.60	7.40	7.30	7.40	---	---	---	7.50	7.50	7.50
16	7.60	7.50	7.50	7.30	7.30	7.30	---	---	---	7.50	7.50	7.50
17	7.80	7.50	7.60	7.30	7.20	7.30	7.60	7.50	7.60	7.50	7.50	7.50
18	7.80	7.50	7.60	7.40	7.30	7.30	7.60	7.50	7.60	7.50	7.50	7.50
19	7.50	7.40	7.50	7.30	7.20	7.30	7.70	7.60	7.60	7.50	7.50	7.50
20	7.50	7.30	7.40	7.40	7.20	7.30	7.70	7.60	7.60	7.50	7.50	7.50
21	7.50	7.20	7.40	7.40	7.30	7.40	7.70	7.60	7.60	7.50	7.40	7.50
22	7.60	7.50	7.50	7.40	7.30	7.30	7.70	7.60	7.60	7.50	7.50	7.50
23	7.50	7.40	7.50	7.40	7.40	7.40	7.70	7.60	7.70	7.50	7.50	7.50
24	7.40	7.30	7.40	7.80	7.10	7.50	7.70	7.70	7.70	7.60	7.50	7.50
25	7.30	7.30	7.30	---	---	---	7.70	7.60	7.70	7.70	7.50	7.60
26	7.30	7.20	7.30	---	---	---	7.70	7.60	7.60	7.80	7.60	7.70
27	---	---	---	7.40	7.20	7.30	7.70	7.70	7.70	8.00	7.70	7.80
28	---	---	---	7.50	7.40	7.40	7.80	7.70	7.70	8.20	7.70	7.90
29	---	---	---	7.80	7.50	7.60	7.80	7.70	7.70	8.40	7.90	8.20
30	---	---	---	7.70	7.60	7.60	---	---	---	8.30	7.90	8.10
31	7.70	7.60	7.70	---	---	---	---	---	---	8.20	7.90	8.10
MONTH	7.80	7.20	7.50	7.80	7.10	7.43	7.80	7.20	7.56	8.40	7.40	7.62

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	8.20	7.90	8.00	7.60	7.55	7.58	8.00	7.70	7.90	7.70	7.70	7.70
2	8.20	7.80	8.00	7.59	7.55	7.57	8.00	7.80	7.90	7.80	7.70	7.70
3	7.90	7.70	7.80	7.58	7.53	7.55	8.00	7.80	7.90	7.80	7.70	7.70
4	7.70	7.30	7.50	7.56	7.52	7.54	8.10	7.80	7.90	7.80	7.70	7.80
5	7.70	7.40	7.60	7.56	7.44	7.51	8.10	7.80	7.90	7.90	7.70	7.80
6	---	---	---	7.99	7.53	7.57	8.00	7.80	7.90	7.80	7.70	7.70
7	7.60	7.40	7.50	7.99	7.51	7.58	---	---	---	7.80	7.48	7.58
8	7.50	7.40	7.40	8.04	7.52	7.57	7.36	7.29	7.32	7.65	7.60	7.62
9	7.40	7.40	7.40	7.84	7.50	7.56	7.33	7.17	7.27	7.67	7.63	7.65
10	7.40	7.40	7.40	8.00	7.51	7.57	7.34	7.28	7.32	7.71	7.66	7.68
11	7.42	7.35	7.41	7.93	7.51	7.57	7.36	7.32	7.34	7.81	7.55	7.70
12	7.43	7.41	7.42	7.92	7.53	7.61	7.36	7.31	7.34	7.82	7.58	7.69
13	7.44	7.41	7.42	7.93	7.67	7.76	7.35	7.31	7.33	7.80	7.69	7.75
14	7.46	7.41	7.43	7.94	7.82	7.87	7.42	7.34	7.37	7.72	7.61	7.65
15	7.46	7.44	7.45	8.00	7.89	7.94	7.44	7.36	7.41	7.60	7.56	7.65
16	7.45	7.26	7.37	7.98	7.95	7.96	7.38	7.32	7.34	7.60	7.53	7.62
17	7.41	7.36	7.39	---	---	---	7.36	7.30	7.32	7.60	7.50	7.60
18	7.55	7.40	7.43	---	---	---	7.41	7.35	7.37	7.50	7.44	7.53
19	---	---	---	---	---	---	7.44	7.38	7.41	7.60	7.46	7.57
20	---	---	---	---	---	---	7.69	7.29	7.36	7.80	7.60	7.73
21	---	---	---	---	---	---	7.34	7.27	7.31	7.70	7.63	7.70
22	---	---	---	---	---	---	7.37	7.33	7.36	7.70	7.57	7.64
23	---	---	---	---	---	---	7.40	7.30	7.30	7.60	7.52	7.59
24	---	---	---	---	---	---	7.80	7.30	7.50	7.60	7.49	7.56
25	---	---	---	---	---	---	7.90	7.80	7.80	7.50	7.49	7.50
26	---	---	---	7.80	7.60	7.70	7.80	7.70	7.80	7.50	7.47	7.50
27	7.73	7.59	7.61	7.60	7.40	7.50	7.80	7.70	7.80	7.50	7.49	7.50
28	7.62	7.58	7.60	7.50	7.40	7.40	7.80	7.60	7.70	7.50	7.47	7.50
29	---	---	---	7.60	7.40	7.50	7.70	7.60	7.60	7.60	7.50	7.57
30	---	---	---	7.90	7.60	7.70	7.70	7.70	7.70	---	---	---
31	---	---	---	8.00	7.60	7.80	---	---	---	---	---	---
MONTH	8.20	7.26	7.53	8.04	7.40	7.63	8.10	7.17	7.54	7.90	7.44	7.64

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	7.41	7.31	7.35	7.83	7.70	7.75	---	---	---
2	---	---	---	7.39	7.33	7.36	7.78	7.74	7.76	---	---	---
3	---	---	---	7.46	7.38	7.40	7.88	7.78	7.83	---	---	---
4	---	---	---	7.43	7.26	7.33	---	---	---	---	---	---
5	---	---	---	7.33	7.23	7.27	---	---	---	---	---	---
6	---	---	---	7.39	7.23	7.28	---	---	---	---	---	---
7	---	---	---	7.31	7.23	7.27	---	---	---	---	---	---
8	---	---	---	7.30	7.22	7.26	---	---	---	---	---	---
9	---	---	---	7.29	7.26	7.27	7.76	7.58	7.64	---	---	---
10	---	---	---	7.68	7.48	7.57	7.76	7.53	7.61	7.66	7.60	7.64
11	---	---	---	---	---	---	7.79	7.59	7.63	7.67	7.58	7.63
12	---	---	---	---	---	---	---	---	---	7.69	7.60	7.65
13	---	---	---	---	---	---	---	---	---	7.70	7.63	7.66
14	---	---	---	---	---	---	---	---	---	7.73	7.65	7.69
15	---	---	---	---	---	---	---	---	---	7.72	7.64	7.69
16	---	---	---	---	---	---	---	---	---	7.74	7.65	7.69
17	---	---	---	---	---	---	---	---	---	7.77	7.69	7.74
18	---	---	---	---	---	---	7.66	7.62	7.63	7.79	7.72	7.76
19	---	---	---	7.83	7.75	7.79	7.70	7.63	7.71	7.79	7.74	7.76
20	---	---	---	7.81	7.72	7.77	7.71	7.63	7.66	7.80	7.74	7.78
21	---	---	---	7.78	7.69	7.74	7.80	7.65	7.70	7.80	7.74	7.78
22	---	---	---	7.74	7.59	7.71	7.80	7.72	7.70	7.80	7.77	7.78
23	---	---	---	7.73	7.63	7.68	7.80	7.75	7.81	7.83	7.80	7.82
24	---	---	---	7.74	7.66	7.69	7.80	7.76	7.83	7.88	7.81	7.84
25	---	---	---	7.80	7.64	7.71	8.00	7.80	7.89	7.85	7.80	7.82
26	7.63	7.52	7.60	7.70	7.53	7.59	8.00	7.82	7.93	7.97	7.82	7.89
27	7.65	7.15	7.51	7.64	7.56	7.60	8.00	7.94	7.99	7.98	7.90	7.94
28	7.31	7.25	7.28	7.72	7.66	7.69	---	---	---	8.05	7.96	8.01
29	7.36	7.28	7.31	7.75	7.67	7.71	---	---	---	8.08	7.94	8.01
30	7.39	7.28	7.33	7.77	7.68	7.71	---	---	---	8.29	8.04	8.15
31	---	---	---	7.73	7.67	7.70	---	---	---	---	---	---
MONTH	7.65	7.15	7.41	7.83	7.22	7.54	8.00	7.53	7.75	8.29	7.58	7.80

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	22.0	21.0	21.5	20.5	13.0	17.0	---	---	---	---	---	---
2	22.0	20.5	21.0	17.5	16.0	16.5	---	---	---	---	---	---
3	21.5	20.5	21.0	22.5	12.0	16.5	---	---	---	---	---	---
4	21.5	20.5	21.0	21.5	16.5	19.5	---	---	---	---	---	---
5	22.0	21.0	21.0	16.5	16.0	16.5	---	---	---	---	---	---
6	21.5	20.0	21.0	17.0	16.0	16.5	---	---	---	---	---	---
7	21.5	20.0	21.0	17.0	16.5	16.5	---	---	---	10.0	10.0	10.0
8	21.5	20.5	21.0	17.0	16.5	16.5	12.0	11.0	11.5	10.0	9.0	9.5
9	22.5	21.0	22.0	18.0	17.0	17.5	13.5	12.0	13.0	9.0	7.0	9.0
10	23.5	22.0	23.0	19.5	18.0	19.0	14.0	13.0	13.5	9.5	8.5	9.0
11	24.5	23.0	24.0	19.5	19.0	19.0	14.0	12.0	13.0	9.5	8.5	9.0
12	25.5	24.0	24.5	20.5	19.5	20.0	12.0	10.5	11.5	10.0	8.5	9.0
13	26.0	25.0	25.5	20.5	20.0	20.0	---	---	---	10.0	9.0	9.5
14	26.5	25.5	26.0	20.0	19.0	19.5	---	---	---	10.0	8.5	9.5
15	25.5	24.0	25.0	19.0	18.5	19.0	---	---	---	11.0	9.0	10.0
16	24.5	24.0	24.5	18.5	18.5	18.5	---	---	---	11.0	10.5	11.0
17	25.0	24.0	24.5	19.5	18.5	19.0	---	---	---	12.0	11.0	11.5
18	25.5	24.5	25.0	20.0	19.0	19.5	---	---	---	13.0	12.0	12.5
19	25.5	25.0	25.0	20.0	19.0	19.5	---	---	---	13.5	12.5	13.0
20	25.0	24.0	25.0	19.0	17.5	18.5	---	---	---	14.0	12.5	13.5
21	24.5	23.0	24.0	18.0	17.5	17.5	---	---	---	15.0	13.5	14.0
22	23.0	22.5	22.5	17.5	17.0	17.0	---	---	---	15.0	14.0	14.5
23	23.0	22.5	22.5	17.5	17.0	17.0	---	---	---	14.0	13.5	13.5
24	23.0	22.5	23.0	19.0	17.0	18.0	---	---	---	14.0	13.5	13.5
25	23.5	23.0	23.0	20.0	19.0	19.5	---	---	---	14.5	13.5	14.0
26	23.5	23.0	23.5	20.5	19.5	20.0	---	---	---	14.0	13.0	13.5
27	---	---	---	20.5	19.0	19.5	---	---	---	13.0	12.0	12.5
28	---	---	---	21.5	14.0	16.5	---	---	---	13.0	11.5	12.0
29	---	---	---	20.0	12.0	15.5	---	---	---	13.5	12.0	13.0
30	---	---	---	---	---	---	---	---	---	14.0	12.5	13.0
31	25.5	16.5	20.5	---	---	---	---	---	---	14.5	13.0	14.0
MONTH	26.5	16.5	23.0	22.5	12.0	18.0	14.0	10.5	12.5	15.0	7.0	11.5

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	15.5	14.0	15.0	14.0	13.5	13.5	22.5	21.5	22.0	23.0	22.0	22.5
2	16.5	15.0	16.0	14.5	13.5	14.0	22.5	21.5	22.0	22.0	21.5	22.0
3	17.0	16.5	16.5	14.5	14.0	14.5	22.5	21.5	22.0	22.5	21.0	21.5
4	17.0	17.0	17.0	15.0	14.0	14.5	23.0	21.5	22.0	22.5	21.5	22.0
5	17.0	16.5	17.0	15.5	14.0	15.0	24.0	22.5	23.0	23.0	22.0	22.5
6	18.5	12.5	16.5	16.0	15.0	15.5	24.0	23.0	23.5	23.5	22.5	23.0
7	17.5	14.5	15.5	16.5	15.0	16.0	---	---	---	24.0	23.0	24.0
8	14.5	13.5	14.0	17.0	15.5	16.5	23.0	23.0	23.0	24.0	23.5	24.0
9	13.0	11.5	12.5	18.0	16.5	17.5	23.5	22.0	22.5	25.0	24.0	24.5
10	11.5	10.0	10.5	19.5	18.0	18.5	22.0	21.5	22.0	24.5	24.5	24.5
11	10.0	8.5	9.0	19.0	18.5	19.0	21.5	21.0	21.0	24.5	23.5	24.0
12	8.5	8.0	8.0	23.0	18.5	20.5	22.0	21.0	21.5	24.5	23.5	24.0
13	8.0	7.5	8.0	20.5	16.0	19.0	22.5	21.5	22.0	24.5	23.5	24.0
14	9.0	8.0	8.5	19.5	15.5	18.0	22.5	22.0	22.0	25.0	24.0	24.5
15	9.5	8.5	9.0	20.0	14.5	17.5	22.0	21.0	21.5	25.0	24.5	25.0
16	---	---	---	18.0	14.5	16.0	22.0	21.0	21.5	25.5	25.0	25.0
17	---	---	---	---	---	---	21.5	20.0	20.5	25.5	24.5	25.0
18	---	---	---	---	---	---	21.5	20.5	21.0	24.5	23.5	24.0
19	---	---	---	---	---	---	21.5	21.0	21.5	23.5	23.0	23.5
20	---	---	---	---	---	---	21.5	20.5	21.0	23.0	22.0	22.5
21	---	---	---	---	---	---	21.5	20.0	20.5	23.0	22.0	22.5
22	---	---	---	---	---	---	21.0	20.5	20.5	23.5	22.5	23.0
23	---	---	---	---	---	---	21.0	20.0	20.5	24.5	23.0	23.5
24	---	---	---	---	---	---	21.0	20.0	20.5	25.0	24.0	24.5
25	---	---	---	---	---	---	21.0	20.5	20.5	25.5	25.0	25.0
26	---	---	---	20.0	19.5	19.5	21.5	20.5	21.0	25.5	25.0	25.0
27	14.5	14.0	14.0	20.5	19.0	20.0	22.0	21.0	21.5	25.0	24.5	25.0
28	14.0	13.5	14.0	21.5	19.5	20.5	22.5	21.5	22.0	25.0	24.5	24.5
29	---	---	---	22.0	20.0	21.0	23.5	22.5	23.0	26.5	24.0	24.5
30	---	---	---	22.5	20.5	21.5	23.5	23.0	23.0	---	---	---
31	---	---	---	23.0	21.0	22.0	---	---	---	---	---	---
MONTH	18.5	7.5	13.0	23.0	13.5	17.5	24.0	20.0	21.5	26.5	21.0	24.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	30.0	29.5	29.5	34.5	32.5	33.5	---	---	---
2	---	---	---	30.0	29.5	30.0	34.5	33.0	33.5	---	---	---
3	---	---	---	30.0	29.5	30.0	34.0	32.5	33.0	---	---	---
4	---	---	---	30.0	29.5	30.0	33.5	32.0	32.5	---	---	---
5	---	---	---	30.5	29.5	30.0	33.0	31.5	32.5	---	---	---
6	---	---	---	30.0	29.5	30.0	32.5	31.0	32.0	---	---	---
7	---	---	---	30.5	29.5	30.0	32.0	31.0	31.5	---	---	---
8	---	---	---	30.5	30.0	30.0	32.5	31.0	31.5	---	---	---
9	---	---	---	30.5	30.0	30.5	32.0	31.0	31.5	---	---	---
10	---	---	---	32.5	28.5	30.0	32.0	31.0	31.5	28.5	28.0	28.0
11	---	---	---	33.5	30.0	31.5	32.5	31.0	31.5	28.5	27.5	28.0
12	---	---	---	33.5	32.0	33.0	31.5	27.5	29.0	29.0	27.5	28.0
13	---	---	---	33.0	31.5	32.5	---	---	---	28.5	28.0	28.0
14	---	---	---	34.5	31.5	33.0	---	---	---	28.5	27.5	28.0
15	---	---	---	34.0	30.5	32.5	---	---	---	29.0	28.0	28.5
16	---	---	---	33.5	30.0	31.5	---	---	---	29.0	28.0	28.5
17	---	---	---	33.5	28.5	31.5	---	---	---	29.0	28.0	28.5
18	---	---	---	34.5	30.5	31.5	33.0	32.0	32.5	29.0	28.0	28.5
19	---	---	---	31.0	30.0	30.5	33.0	31.0	32.0	29.0	28.0	28.5
20	---	---	---	31.5	30.5	31.0	32.5	31.0	31.5	29.0	28.0	28.5
21	---	---	---	32.0	30.5	31.0	32.0	31.0	31.5	28.5	28.0	28.0
22	---	---	---	32.0	31.0	31.5	31.5	30.5	31.0	29.0	27.5	28.0
23	---	---	---	32.5	31.0	32.0	31.0	30.0	30.5	28.5	28.0	28.0
24	---	---	---	33.0	31.5	32.0	30.5	29.5	30.0	29.0	28.0	28.5
25	---	---	---	33.0	31.5	32.0	31.5	29.5	30.5	29.0	28.0	28.5
26	30.0	29.5	30.0	32.0	31.0	31.5	31.5	30.0	30.5	29.0	28.0	28.5
27	30.0	29.0	29.5	33.0	31.0	32.0	31.0	30.5	30.5	29.5	28.0	29.0
28	29.5	29.0	29.5	33.5	32.0	32.5	---	---	---	29.5	29.0	29.0
29	30.0	29.5	29.5	33.5	32.0	33.0	---	---	---	29.5	28.5	29.0
30	30.0	29.5	29.5	34.0	32.0	33.0	---	---	---	29.5	28.5	29.0
31	---	---	---	34.0	32.0	33.0	---	---	---	---	---	---
MONTH	30.0	29.0	29.5	34.5	28.5	31.5	34.5	27.5	31.5	29.5	27.5	28.5

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8.7	8.1	8.3	---	---	---	---	---	---	---	---	---
2	8.7	7.9	8.3	---	---	---	---	---	---	---	---	---
3	8.3	7.7	8.0	---	---	---	---	---	---	---	---	---
4	8.1	5.4	6.9	---	---	---	---	---	---	---	---	---
5	5.3	3.3	4.1	---	---	---	---	---	---	---	---	---
6	5.5	3.5	4.7	9.8	9.3	9.5	---	---	---	---	---	---
7	6.7	5.5	6.1	9.8	9.4	9.5	---	---	---	11.4	10.9	11.1
8	7.3	6.8	7.2	8.9	8.5	8.6	8.8	8.3	8.6	11.3	10.8	11.0
9	7.5	7.2	7.3	10.1	9.9	10.0	8.6	8.3	8.5	11.2	10.8	11.0
10	7.6	7.0	7.3	9.3	9.1	9.2	8.6	8.3	8.5	11.0	10.8	11.0
11	7.3	6.7	7.0	9.3	9.0	9.1	8.7	8.5	8.6	11.2	10.8	11.0
12	7.2	6.6	6.8	9.2	8.2	8.7	8.5	8.0	8.2	11.2	10.9	11.0
13	7.3	6.5	6.8	9.1	8.5	8.8	---	---	---	11.2	11.0	11.0
14	7.3	6.5	6.8	9.1	7.2	8.0	---	---	---	11.2	10.8	11.1
15	6.6	6.0	6.4	9.6	9.1	9.5	---	---	---	11.1	10.7	10.8
16	6.5	5.6	6.0	9.7	9.6	9.6	---	---	---	11.1	10.7	10.9
17	8.1	5.7	6.8	9.6	9.0	9.3	6.3	4.5	5.4	10.8	10.6	10.7
18	8.1	6.4	7.3	9.3	8.7	9.1	6.4	5.1	5.8	10.6	9.3	10.0
19	8.2	7.3	7.7	8.6	5.4	7.3	6.3	5.2	5.9	10.8	9.8	10.4
20	8.3	6.6	7.6	7.9	5.2	6.2	5.9	4.6	5.5	10.9	10.4	10.7
21	8.3	2.3	5.5	9.0	8.0	8.6	6.1	4.9	5.4	10.5	9.8	10.1
22	6.9	2.2	5.1	9.1	8.3	8.7	5.6	5.0	5.3	10.4	10.0	10.2
23	8.5	6.9	7.6	9.5	9.2	9.3	6.0	4.9	5.4	10.5	10.1	10.3
24	8.9	7.7	8.4	9.3	7.9	8.7	5.8	5.0	5.3	10.5	9.9	10.2
25	8.4	7.8	8.1	7.8	6.7	7.2	6.0	5.1	5.5	11.0	9.7	10.2
26	8.5	7.8	8.2	6.9	6.7	6.8	5.7	4.8	5.2	11.5	10.1	10.6
27	---	---	---	---	---	---	6.1	4.6	5.1	12.6	10.6	11.4
28	---	---	---	---	---	---	5.9	5.0	5.4	13.1	11.1	11.9
29	---	---	---	---	---	---	5.9	5.0	5.6	15.4	11.3	13.1
30	---	---	---	---	---	---	---	---	---	15.4	12.9	13.9
31	---	---	---	---	---	---	---	---	---	14.5	12.6	13.5
MONTH	8.9	2.2	6.9	10.1	5.2	8.7	8.8	4.5	6.3	15.4	9.3	11.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	14.4	12.3	13.3	10.5	10.2	10.3	13.1	11.4	12.2	8.1	7.9	7.9
2	14.0	12.0	12.9	10.5	10.2	10.4	13.0	11.4	12.1	8.4	8.1	8.2
3	12.3	10.9	11.6	10.4	10.2	10.3	12.7	11.2	11.7	8.4	7.8	8.2
4	10.7	6.9	8.7	10.4	10.2	10.3	12.9	10.9	11.8	8.5	7.7	8.1
5	7.8	7.0	7.5	10.5	10.3	10.4	12.9	10.9	11.8	8.3	7.2	8.0
6	---	---	---	10.6	10.2	10.4	12.1	10.8	11.4	8.0	7.1	7.6
7	---	---	---	11.1	10.0	10.4	---	---	---	7.9	7.1	7.2
8	9.2	8.7	9.0	10.4	9.8	10.1	6.2	5.7	6.0	7.6	7.3	7.4
9	9.6	9.2	9.4	9.9	9.5	9.7	6.0	3.6	5.1	7.7	7.6	7.6
10	---	---	---	9.7	9.3	9.5	6.6	5.3	6.1	7.8	7.4	7.6
11	10.6	9.9	10.1	9.6	9.4	9.4	7.9	6.7	7.5	7.7	5.6	7.1
12	10.3	9.9	10.1	9.6	5.7	7.8	8.0	7.9	8.0	7.6	6.1	6.9
13	10.7	10.2	10.5	7.2	5.8	6.7	8.5	8.1	8.3	6.9	6.3	6.8
14	11.0	10.6	10.8	7.7	6.0	6.9	8.7	8.5	8.6	6.9	6.2	6.5
15	11.0	10.7	10.9	7.6	6.4	7.1	9.1	8.4	8.7	7.2	6.0	6.2
16	---	---	---	7.9	6.7	7.5	8.2	7.2	7.9	6.7	6.0	6.1
17	9.8	6.9	8.0	---	---	---	8.2	6.6	7.3	6.6	6.0	6.2
18	---	---	---	---	---	---	8.7	8.3	8.5	6.6	6.0	6.1
19	---	---	---	---	---	---	8.9	8.7	8.8	7.0	6.2	6.6
20	---	---	---	---	---	---	9.0	8.1	8.6	7.6	7.0	7.3
21	---	---	---	---	---	---	8.8	8.3	8.5	7.8	6.9	7.1
22	---	---	---	---	---	---	8.9	8.6	8.8	8.3	6.6	6.8
23	---	---	---	---	---	---	8.3	7.2	7.8	8.7	6.4	6.6
24	---	---	---	---	---	---	7.2	6.4	6.9	8.4	6.3	6.5
25	---	---	---	---	---	---	7.3	6.9	7.1	8.1	6.1	6.3
26	---	---	---	12.0	11.0	11.5	7.4	7.2	7.3	7.4	5.8	6.0
27	---	---	---	10.9	9.0	10.0	7.6	7.3	7.4	7.6	6.0	6.1
28	---	---	---	9.7	9.0	9.3	7.7	7.2	7.4	7.6	6.1	6.3
29	---	---	---	11.3	9.6	10.5	7.3	7.1	7.2	7.0	6.1	6.4
30	---	---	---	12.9	10.8	11.7	7.8	---	---	---	---	---
31	---	---	---	13.2	10.8	11.9	---	---	---	---	---	---
MONTH	14.4	6.9	10.2	13.2	5.7	9.6	13.1	3.6	8.5	8.7	5.6	7.0

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	4.2	2.6	3.2	7.5	5.5	6.6	---	---	---
2	---	---	---	4.6	3.4	4.1	7.3	5.6	6.5	---	---	---
3	---	---	---	5.2	3.1	4.6	7.7	5.7	6.6	---	---	---
4	---	---	---	5.4	2.3	3.7	---	---	---	---	---	---
5	---	---	---	4.4	3.0	3.7	---	---	---	---	---	---
6	---	---	---	5.9	3.4	4.8	---	---	---	---	---	---
7	---	---	---	4.2	3.5	3.8	---	---	---	---	---	---
8	---	---	---	3.9	2.5	3.3	---	---	---	---	---	---
9	---	---	---	3.9	2.8	3.3	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	5.2	5.0	5.1
11	---	---	---	---	---	---	---	---	---	5.0	4.7	4.8
12	---	---	---	---	---	---	---	---	---	4.9	3.9	4.6
13	---	---	---	---	---	---	---	---	---	5.0	3.9	4.6
14	---	---	---	---	---	---	---	---	---	5.3	5.0	5.1
15	---	---	---	---	---	---	---	---	---	5.2	4.4	5.0
16	---	---	---	---	---	---	---	---	---	5.0	4.2	4.7
17	---	---	---	---	---	---	---	---	---	5.3	5.1	5.2
18	---	---	---	---	---	---	7.7	5.2	5.8	5.5	5.2	5.4
19	---	---	---	---	---	7.8	6.6	5.2	5.7	5.5	5.3	5.4
20	---	---	---	7.7	6.4	7.0	6.4	5.3	5.7	5.9	5.5	5.7
21	---	---	---	8.0	5.9	6.9	7.2	5.4	6.1	6.1	5.7	5.8
22	---	---	---	8.4	6.7	7.7	6.6	5.1	5.7	6.6	5.6	6.1
23	---	---	---	8.4	6.5	7.6	6.5	5.2	5.7	6.1	6.0	6.0
24	---	---	---	9.3	7.3	8.3	7.1	5.2	5.9	7.2	6.5	6.8
25	---	---	---	8.6	5.9	7.3	8.2	5.4	6.5	7.0	6.5	6.8
26	9.9	7.3	7.6	7.1	5.5	6.4	8.1	5.5	6.7	7.8	6.7	7.2
27	7.4	.7	5.5	7.1	6.0	6.6	6.9	6.7	6.8	7.9	6.9	7.4
28	2.0	1.2	1.5	7.2	5.9	6.7	---	---	---	8.2	7.2	7.6
29	2.6	1.2	1.9	7.3	6.0	6.7	---	---	---	8.3	6.9	7.5
30	3.1	1.6	2.5	7.7	6.3	7.0	---	---	---	9.1	7.5	8.1
31	---	---	---	7.3	5.7	6.6	---	---	---	---	---	---
MONTH	9.9	.7	3.8	9.3	2.3	5.8	8.2	5.1	6.2	9.1	3.9	6.0

08065800 BEDIAS CREEK NEAR MADISONVILLE, TX

LOCATION.--Lat 30°53'03", long 95°46'39", Madison-Walker County line, Hydrologic Unit 12030202, on right bank at downstream side of bridge on U.S. Highways 75 and 190, 0.5 mi upstream from Interstate Highway 45, 1.5 mi downstream from Caney Creek, and 9.5 mi southeast of Madisonville.

DRAINAGE AREA.--321 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 150.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. There are no diversions above station. Flow is affected at times by discharge from the flood-detention pools of three floodwater-retarding structures with a combined detention capacity of 1,290 acre-ft. These structures control runoff from 2.71 mi² in the upper Caney Creek and Town Branch drainage basins. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years, 215 ft³/s (9.09 in/yr), 155,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,800 ft³/s Sept. 14, 1974 (gage height, 25.07 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1910, 34 ft in May 1922 (discharge unknown), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,400 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 26	0600	*13,400	*21.22	No other peak greater than base discharge.			

Minimum discharge, no flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	448	224	11	5.3	5.6	1.8	404	10	10	.13	.00
2	.98	246	413	9.6	4.8	5.5	1.8	1060	8.4	6.1	.13	.11
3	1.3	97	368	9.0	4.8	5.5	1.8	2950	7.8	3.9	.09	1.3
4	2.8	106	149	9.0	59	5.6	1.8	1970	7.8	2.8	.02	.90
5	2.9	71	83	8.0	435	9.0	1.8	692	34	2.0	.00	.40
6	2.0	27	58	7.1	376	9.4	1.7	118	108	1.5	.00	1.3
7	1.4	10	43	6.4	166	7.1	1.6	62	546	1.2	.00	124
8	.99	3.9	33	6.0	105	6.4	1.6	47	681	1.0	.00	126
9	.76	2.3	26	5.8	62	5.9	1.6	40	779	.91	.00	67
10	.56	1.7	22	6.5	45	5.4	2.1	33	957	.89	.00	44
11	.40	49	265	9.7	40	5.2	3.6	31	1050	.86	6.0	22
12	.27	256	712	11	47	4.5	7.9	28	423	.78	.54	26
13	.18	477	1100	9.3	46	4.1	7.2	24	253	.69	.05	32
14	.08	443	949	8.5	37	3.6	12	24	96	.63	.00	7.0
15	.14	130	445	7.9	31	3.4	9.0	20	50	.58	.00	3.7
16	40	53	149	7.9	27	3.4	6.3	16	51	.55	.00	3.4
17	56	144	91	41	24	3.3	4.6	89	520	.55	.00	2.3
18	19	198	65	107	21	3.3	3.8	637	788	.50	.00	1.7
19	7.6	136	51	83	19	3.2	3.1	1060	1120	.39	.00	1.5
20	3.9	57	42	47	18	2.9	2.9	1170	655	.34	.00	1.3
21	5.1	26	35	32	15	2.9	2.8	441	124	.27	.00	1.1
22	27	11	31	21	14	2.9	2.8	74	60	.21	.00	122
23	12	5.8	27	15	12	2.8	2.6	46	37	.20	.00	84
24	6.7	95	23	11	11	2.5	2.9	35	24	.20	.00	21
25	3.6	1580	20	9.6	11	2.4	3.4	144	16	.19	.00	6.7
26	2.0	9200	18	7.5	9.6	2.4	3.4	61	11	.17	.00	3.5
27	1.9	3250	16	6.2	7.6	2.3	7.0	54	21	.17	.00	2.4
28	1.5	1860	14	6.0	6.2	2.1	316	34	96	.17	.00	1.7
29	24	1120	13	6.4	---	2.1	515	21	42	.17	.00	1.8
30	413	530	12	6.0	---	2.1	424	14	20	.17	.00	2.1
31	479	---	11	5.5	---	1.9	---	12	---	.15	.00	---
TOTAL	1118.06	20633.7	5508	536.9	1659.3	128.7	1357.9	11411	8596.0	38.24	6.96	712.21
MEAN	36.1	688	178	17.3	59.3	4.15	45.3	368	287	1.23	.22	23.7
MAX	479	9200	1100	107	435	9.4	515	2950	1120	10	6.0	126
MIN	.08	1.7	11	5.5	4.8	1.9	1.6	12	7.8	.15	.00	.00
CFSM	.11	2.14	.55	.05	.18	.01	.14	1.15	.89	.00	.00	.07
IN.	.13	2.39	.64	.06	.19	.01	.16	1.32	.00	.00	.00	.08
AC-FT	2220	40930	10930	1060	3290	255	2690	22630	17050	76	14	1410

CAL YR 1985 TOTAL 69858.36 MEAN 191 MAX 9200 MIN .00 CFSM .60 IN. 8.10 AC-FT 138600
WTR YR 1986 TOTAL 51706.97 MEAN 142 MAX 9200 MIN .00 CFSM .44 IN. 5.99 AC-FT 102600

08065800 BEDIAS CREEK NEAR MADISONVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: July 1962 to April 1964; January 1968 to September 1970. Chemical and biochemical analyses: September 1970 to September 1974; April 1985 to current year. Pesticide analyses: April 1985 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1984 to current year.
WATER TEMPERATURES: October 1984 to current year.
SUSPENDED SEDIMENT DISCHARGE: October 1984 to September 1986.

INSTRUMENTATION.--Beginning October 1984, specific conductance and water temperature are recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum and minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,190 microsiemens Oct. 13, 1985; minimum, 56 microsiemens Nov. 27, 1985.
WATER TEMPERATURES: Maximum, 31.5°C Aug. 9, 10, 1985; minimum, 2.5°C Feb. 3, 1985.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 915 mg/L Oct. 19, 28, 1985; minimum daily mean, 10 mg/L July 25, 1985 and Aug. 11, 1986.
SEDIMENT LOADS: Maximum daily, 7,510 tons Nov. 26, 1985; minimum daily, no flow on many days.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum , 1,190 microsiemens Oct. 13; minimum , 128 microsiemens Nov. 27.
WATER TEMPERATURES: Maximum, 30.0°C July 31; minimum, 4.0°C Dec. 15, 16, 26.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 915 mg/L Oct. 28; minimum daily mean, 10 mg/L Aug. 11.
SEDIMENT LOADS: Maximum daily, 7,510 tons Nov 26; minimum daily, no flow on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 22...	1340	28	291	7.00	22.0	6.2	71	58	26	16	4.5	29
28...	1015	2.6	--	--	18.0	--	--	--	--	--	--	--
DEC 18...	1245	64	213	6.40	6.0	12.0	--	48	27	12	4.5	20
FEB 25...	1455	11	538	7.50	15.0	12.0	119	130	79	32	11	55
APR 16...	1217	6.2	774	7.50	18.0	7.4	78	140	53	37	12	86
JUN 03...	1220	7.9	400	7.20	24.5	6.0	72	93	48	25	7.4	39
AUG 01...	1225	0.13	1070	8.00	32.0	6.8	--	250	150	62	23	110

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)	SEDI-MENT, SUS-PENDED (MG/L)
OCT 22...	2	8.2	32	49	34	<0.1	11	170	13	16	31	--
28...	--	--	--	--	--	--	--	--	--	--	--	1060
DEC 18...	1	5.0	21	38	25	<0.1	16	130	14	13	3	--
FEB 25...	2	6.2	46	100	73	0.2	10	310	16	12	<1	--
APR 16...	3	9.3	89	110	100	0.2	14	420	12	11	3	--
JUN 03...	2	5.9	45	65	47	0.1	22	240	12	14	2	--
AUG 01...	3	7.6	98	170	160	0.2	16	610	10	10	2	--

DATE	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOT-TOM MA-TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)
OCT 22...	--	--	--	--	--	--	--	--	4	--	<100
28...	7.4	88	89	90	91	92	99	100	--	--	--
DEC 18...	--	--	--	--	--	--	--	--	1	40	100
FEB 25...	--	--	--	--	--	--	--	--	2	--	100
APR 16...	--	--	--	--	--	--	--	--	4	16	100
JUN 03...	--	--	--	--	--	--	--	--	3	--	100
AUG 01...	--	--	--	--	--	--	--	--	2	6	200

08065800 BEDIAS CREEK NEAR MADISONVILLE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	BARIUM, RECOV. FM BOTTOM MATERIAL (UG/G AS BA)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	PCB, TOTAL (UG/L)
OCT											
22...	--	10	--	2800	<100	--	190	--	<0.1	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
DEC											
18...	380	20	20	2000	100	40	130	810	<0.1	0.06	<0.1
FEB											
25...	--	10	--	1200	<100	--	170	--	<0.1	--	--
APR											
16...	130	<10	30	1400	<100	10	340	510	<0.1	<0.01	<0.1
JUN											
03...	--	<10	--	2000	<100	--	200	--	<0.1	--	--
AUG											
01...	100	10	2	560	<100	10	950	360	0.1	0.04	--

DATE	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT											
22...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
DEC											
18...	<1	<0.1	<1.0	<0.01	<0.1	<0.1	<1.0	<0.01	<0.1	<0.01	0.2
FEB											
25...	--	--	--	--	--	--	--	--	--	--	--
APR											
16...	<1	<0.1	<1.0	<0.01	<0.1	<0.1	<1.0	<0.01	<0.1	<0.01	<0.1
JUN											
03...	--	--	--	--	--	--	--	--	--	--	--
AUG											
01...	--	--	--	--	--	--	--	--	--	--	--

DATE	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL (UG/L)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)
OCT											
22...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
DEC											
18...	<0.01	<0.1	<0.01	<0.2	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01
FEB											
25...	--	--	--	--	--	--	--	--	--	--	--
APR											
16...	<0.01	<0.1	0.03	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01
JUN											
03...	--	--	--	--	--	--	--	--	--	--	--
AUG											
01...	--	--	--	--	--	--	--	--	--	--	--

DATE	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)
OCT											
22...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
DEC											
18...	<0.2	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1
FEB											
25...	--	--	--	--	--	--	--	--	--	--	--
APR											
16...	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1
JUN											
03...	--	--	--	--	--	--	--	--	--	--	--
AUG											
01...	--	--	--	--	--	--	--	--	--	--	--

08065800 BEDIAS CREEK NEAR MADISONVILLE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI-THION, TOTAL (UG/L)	METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL (UG/L)	MIREX, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PARA-THION, TOTAL (UG/L)	PARA-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PER-THANE TOTAL (UG/L)	PER-THANE IN BOT-TOM MA-TERIAL (UG/KG)	SILVEX, TOTAL (UG/L)
OCT											
22...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
DEC											
18...	<0.01	<0.2	<0.01	<1.0	<0.01	<0.1	--	<0.2	<0.1	<1.00	<0.01
FEB											
25...	--	--	--	--	--	--	--	--	--	--	--
APR											
16...	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.1	<1.00	<0.01
JUN											
03...	--	--	--	--	--	--	--	--	--	--	--
AUG											
01...	--	--	--	--	--	--	--	--	--	--	--

DATE	SILVEX, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TOX-APHENE, TOTAL (UG/L)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	TRI-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4-D, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	2, 4-DP TOTAL (UG/L)	2,4-DP, IN BOTTOM MAT. (UG/KG)	2,4,5-T TOTAL (UG/L)	2,4,5-T TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT											
22...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
DEC											
18...	<0.1	<1	<10	<0.01	<0.2	--	0.6	<0.01	<0.1	<0.01	<0.1
FEB											
25...	--	--	--	--	--	--	--	--	--	--	--
APR											
16...	<0.1	<1	<10	<0.01	<0.1	0.1	<0.1	<0.01	<0.1	<0.01	<0.1
JUN											
03...	--	--	--	--	--	--	--	--	--	--	--
AUG											
01...	--	--	--	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	1118.06	595	346	1040	81	244	96	291	130
NOV. 1985	20633.7	320	186	10300	43	2380	52	2910	70
DEC. 1985	5508	202	116	1730	24	364	34	504	42
JAN. 1986	536.9	562	326	472	75	109	91	133	120
FEB. 1986	1659.3	526	305	1360	70	312	86	384	110
MAR. 1986	128.7	657	382	133	90	31	110	37	140
APR. 1986	1357.9	560	325	1190	75	276	91	333	120
MAY 1986	11411	190	109	3360	23	708	32	980	40
JUNE 1986	8596.0	297	171	3970	37	859	49	1150	63
JULY 1986	38.24	484	281	29	64	6.6	79	8.2	100
AUG. 1986	6.96	1010	591	11	150	2.8	160	3.0	230
SEPT 1986	712.21	550	319	614	75	145	89	171	120
TOTAL	51706.97	**	**	24300	**	5430	**	6900	**
WTD.AVG.	142	300	174	**	39	**	49	**	65

08065800 BEDIAS CREEK NEAR MADISONVILLE, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	1140	635	631	633	221	195	209	476	460	468
2	---	---	1160	642	635	638	231	221	227	490	476	483
3	---	---	1130	649	642	646	236	231	234	504	491	497
4	---	---	1050	656	649	653	238	234	235	516	503	510
5	---	---	1040	664	656	661	254	239	248	526	516	522
6	---	---	1060	670	664	668	266	254	259	536	527	531
7	---	---	1080	680	670	675	283	267	274	546	536	541
8	---	---	1110	693	681	687	298	282	291	555	546	551
9	---	---	1130	707	693	700	316	298	305	562	555	559
10	---	---	1140	724	707	716	333	312	321	570	562	566
11	---	---	1160	750	724	737	434	174	271	575	570	572
12	---	---	1170	776	751	764	225	174	193	579	571	575
13	---	---	1190	797	777	787	173	158	163	582	579	580
14	---	---	1180	817	799	808	161	157	159	584	580	583
15	---	---	1140	835	818	827	179	161	171	590	584	587
16	---	---	550	855	837	846	197	180	188	597	590	594
17	---	---	395	873	857	865	217	198	208	599	587	595
18	---	---	480	889	874	882	237	218	228	586	526	556
19	---	---	560	905	890	898	256	238	247	544	520	531
20	---	---	573	924	905	915	273	257	265	565	544	554
21	---	---	525	940	925	934	291	275	283	575	565	571
22	324	305	318	956	941	949	309	291	301	589	576	583
23	369	316	333	972	955	964	330	310	320	593	584	589
24	516	374	458	989	973	980	347	329	339	589	585	587
25	519	466	488	999	315	888	363	348	356	593	585	587
26	464	414	431	294	139	200	378	361	370	620	595	610
27	427	386	394	142	128	137	395	379	386	633	621	629
28	390	293	335	154	138	145	411	395	403	665	632	652
29	630	305	485	167	154	161	427	413	420	662	659	661
30	628	587	612	194	168	179	443	427	435	663	660	662
31	632	629	631	---	---	---	460	444	452	662	659	660
MONTH	632	293	789	999	128	685	460	157	283	665	460	572

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	670	660	663	591	585	588	920	909	914	445	350	429
2	697	671	683	593	587	590	927	919	923	332	149	221
3	717	699	709	591	402	527	926	877	901	148	137	141
4	727	625	708	552	428	505	897	868	879	156	137	146
5	638	478	520	582	553	564	921	901	913	203	158	179
6	486	463	473	632	590	620	933	920	925	245	205	226
7	526	489	508	629	621	626	935	925	930	277	247	262
8	544	527	538	627	622	625	926	897	909	299	277	289
9	547	544	546	621	615	618	921	899	909	317	300	308
10	548	546	547	621	617	619	919	809	873	333	319	325
11	546	545	546	628	618	625	980	850	906	351	333	342
12	546	543	544	627	620	623	922	784	846	362	350	356
13	545	543	544	622	617	620	947	888	932	379	362	367
14	550	544	547	626	617	621	902	862	883	412	382	399
15	557	550	554	636	624	631	865	731	777	424	413	418
16	559	555	557	651	633	642	785	735	760	436	423	428
17	557	549	554	660	648	654	911	789	853	440	322	361
18	557	551	555	671	660	665	957	915	938	329	190	257
19	556	541	548	690	667	675	980	889	962	187	172	178
20	539	532	536	737	692	716	---	---	975	172	160	164
21	536	535	536	772	739	756	1000	968	986	211	163	187
22	538	535	536	794	773	784	987	957	968	237	213	228
23	539	536	537	813	795	805	---	---	1030	257	238	247
24	545	537	541	831	814	823	---	---	1110	277	258	268
25	546	524	537	849	831	841	---	---	1040	305	258	281
26	543	530	535	865	849	858	911	881	896	297	264	283
27	588	543	579	879	864	872	888	465	816	284	267	274
28	587	582	585	889	878	884	543	287	409	301	276	288
29	---	---	---	896	886	890	610	486	551	320	303	313
30	---	---	---	904	894	899	662	446	603	334	321	328
31	---	---	---	911	902	907	---	---	---	350	335	343
MONTH	727	463	563	911	402	699	1000	287	877	445	137	285

08065800 BEDIAS CREEK NEAR MADISONVILLE, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	360	349	354			380			1070	---	---	---
2	373	361	367			394			1080	1000	946	964
3	411	374	391			410			1110	984	930	960
4	419	369	405			430			1150	970	914	940
5	470	338	397			449			---	924	894	912
6	449	272	338			479			---	892	864	875
7	320	266	282			495			---	862	766	812
8	293	271	283			518			---	764	726	745
9	322	269	302			536			---	726	686	706
10	252	217	229			568			---	686	648	666
11	262	214	231			580			1000	646	618	631
12	301	266	284			605			1040	616	580	597
13	517	290	350			633			1120	578	540	559
14	795	504	638			647			---	540	500	519
15	757	573	685			679			---	500	468	483
16	672	363	493			692			---	466	438	452
17	368	342	361			707			---	438	412	424
18	340	304	325			730			---	412	388	399
19	---	---	300			759			---	388	344	371
20	---	---	273			792			---	342	308	322
21	---	---	322			803			---	304	266	285
22	---	---	334			825			---	264	244	253
23	---	---	366			847			---	244	228	235
24	---	---	375			870			---	228	216	222
25	---	---	410			895			---	216	204	210
26	---	---	439			918			---	218	196	206
27	---	---	415			936			---	248	204	229
28	---	---	343			959			---	272	238	258
29	---	---	335			981			---	290	242	274
30	---	---	360			1010			---	244	204	232
31	---	---	---			1040			---	---	---	---
MONTH	795	214	366			696			1080	1000	196	508

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	15.0	14.5	14.5	14.5	12.5	13.5	9.0	7.5	8.5
2	---	---	---	14.5	14.5	14.5	12.0	10.0	11.0	9.0	7.5	8.0
3	---	---	---	14.0	13.0	13.5	10.0	9.0	9.5	9.0	7.5	8.5
4	---	---	---	13.5	12.5	13.0	10.0	9.5	9.5	9.5	8.0	9.0
5	---	---	---	13.0	12.5	13.0	10.5	9.5	10.0	8.5	7.0	7.5
6	---	---	---	14.0	12.5	13.5	10.0	9.0	9.5	8.0	6.0	7.0
7	---	---	---	14.0	13.5	13.5	10.0	9.0	9.5	8.0	7.5	8.0
8	---	---	---	15.0	12.5	13.5	11.0	10.0	10.5	7.5	5.5	6.5
9	---	---	---	17.0	15.0	16.0	13.5	11.0	12.5	5.5	5.0	5.5
10	---	---	---	19.0	17.0	18.0	14.5	13.5	14.0	6.0	4.5	5.5
11	---	---	---	20.0	19.0	19.5	14.5	9.5	11.0	6.5	4.5	5.5
12	---	---	---	20.0	19.5	20.0	9.5	7.5	8.5	7.0	4.5	6.0
13	---	---	---	20.5	19.5	20.0	7.5	5.5	6.5	7.0	5.5	6.5
14	---	---	---	21.0	20.5	20.5	5.5	4.5	5.0	7.5	5.0	6.5
15	---	---	---	21.0	19.5	20.5	5.0	4.0	4.5	8.5	6.0	7.0
16	---	---	---	19.0	16.5	18.0	5.5	4.0	4.5	9.5	8.0	8.5
17	---	---	---	17.0	16.0	16.5	5.5	5.0	5.5	11.5	9.5	10.5
18	---	---	---	18.0	17.0	17.5	6.0	5.5	6.0	12.0	10.5	11.5
19	---	---	---	19.0	18.0	18.5	6.0	5.5	6.0	11.5	10.5	11.0
20	---	---	---	18.5	16.0	17.0	6.0	5.5	5.5	12.0	10.5	11.0
21	---	---	---	16.0	15.0	15.5	6.5	5.0	6.0	13.5	11.5	12.5
22	22.0	22.0	22.0	16.0	15.0	15.5	7.5	6.0	7.0	13.0	11.5	12.5
23	23.0	22.0	22.0	17.0	16.0	16.0	8.5	7.5	8.0	11.5	10.5	11.0
24	23.5	22.0	22.5	18.5	17.0	17.5	8.0	7.0	7.5	11.5	9.5	10.5
25	23.0	22.0	22.0	20.0	18.5	19.0	7.0	5.0	6.0	12.0	11.0	11.5
26	22.0	21.0	21.5	21.5	20.0	21.0	6.0	4.0	5.0	11.0	9.5	10.0
27	21.0	19.5	20.0	21.5	18.0	20.0	8.0	6.0	7.0	9.5	7.5	8.0
28	19.5	17.5	18.5	18.0	14.5	16.0	8.5	7.5	8.0	9.5	6.0	7.5
29	17.0	16.5	16.5	14.5	13.5	13.5	8.5	7.0	8.0	11.5	9.0	10.0
30	17.0	15.5	16.0	14.5	13.5	14.0	9.0	7.0	8.0	12.5	10.5	11.5
31	15.5	15.0	15.5	---	---	---	9.5	8.5	9.0	14.0	12.0	13.0
MONTH	23.5	15.0	19.5	21.5	12.5	16.5	14.5	4.0	8.0	14.0	4.5	9.0

08065800 BEDIAS CREEK NEAR MADISONVILLE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	15.5	14.0	14.5	12.0	9.5	11.0	21.0	19.5	20.5	23.5	21.5	22.5
2	16.5	15.5	16.0	14.0	10.5	12.5	21.5	20.0	20.5	21.5	20.5	21.5
3	17.0	16.5	16.5	14.0	13.5	14.0	21.5	20.5	21.0	23.0	19.5	21.0
4	17.0	16.0	16.5	14.5	12.5	13.5	23.0	21.0	22.0	24.0	21.0	22.5
5	15.5	15.0	15.0	15.0	12.0	13.5	24.0	22.5	23.0	23.0	22.5	22.5
6	15.0	14.0	14.5	15.5	13.0	14.5	23.5	22.5	23.0	23.5	22.5	23.0
7	13.5	12.5	13.0	15.0	12.5	14.0	24.0	22.5	23.5	24.0	23.0	23.5
8	13.0	11.0	12.0	16.0	13.5	15.0	25.5	23.5	24.0	25.0	23.5	24.0
9	11.0	9.5	10.5	18.0	16.0	17.0	24.5	21.0	22.5	25.0	23.5	24.5
10	9.5	8.0	9.0	20.0	17.5	18.5	20.5	17.5	18.5	24.5	23.5	24.0
11	7.5	6.5	7.0	19.0	18.5	18.5	19.0	17.5	18.0	24.5	22.5	23.5
12	7.0	6.0	6.5	19.5	18.0	18.5	22.0	19.0	20.5	25.5	24.0	24.5
13	7.0	6.5	6.5	18.5	17.0	17.5	23.5	21.5	22.5	26.5	24.5	25.5
14	10.5	7.0	9.0	17.5	16.0	16.5	23.5	21.5	22.5	25.5	24.5	25.0
15	11.0	9.0	10.0	17.5	15.5	16.5	21.5	19.5	20.5	24.5	23.0	23.5
16	13.5	10.5	12.5	18.0	16.0	17.0	20.5	18.5	19.5	24.0	23.0	23.5
17	16.0	13.5	14.5	18.0	16.5	17.5	20.5	18.5	19.5	24.0	21.5	23.0
18	16.5	14.0	15.5	20.0	18.0	19.0	21.5	20.0	20.5	21.5	21.0	21.0
19	18.0	15.5	16.5	18.5	16.0	17.0	22.0	21.5	21.5	22.5	20.0	21.0
20	19.0	16.0	17.0	16.0	14.5	15.0	21.5	20.0	21.0	23.5	21.0	22.0
21	17.5	14.0	15.0	15.0	13.0	14.0	21.5	19.5	20.5	22.5	21.5	22.0
22	13.5	12.5	13.0	15.0	12.5	14.0	20.5	18.5	20.0	23.5	22.0	22.5
23	13.5	11.0	12.5	16.5	14.0	15.0	21.5	19.0	20.5	24.5	23.0	23.5
24	14.5	11.5	13.0	17.5	15.0	16.0	22.5	20.0	21.5	25.5	24.0	24.5
25	14.5	12.0	13.5	17.5	15.5	16.5	23.0	21.0	22.0	24.5	23.5	24.0
26	16.0	13.0	14.5	19.0	16.5	17.5	23.5	22.0	22.5	24.5	23.5	24.0
27	15.5	14.0	14.5	19.0	17.5	18.0	23.5	22.0	23.0	24.0	23.5	23.5
28	14.0	11.5	12.5	19.5	17.5	18.5	23.0	21.0	22.0	24.0	23.0	23.5
29	---	---	---	20.5	18.0	19.0	24.0	22.5	23.5	24.5	22.5	23.5
30	---	---	---	20.5	18.5	19.5	24.5	24.0	24.0	24.5	23.0	24.0
31	---	---	---	21.0	18.5	20.0	---	---	---	25.0	23.5	24.5
MONTH	19.0	6.0	13.0	21.0	9.5	16.5	25.5	17.5	21.5	26.5	19.5	23.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	25.5	23.5	24.5	28.5	27.5	28.0	29.5	29.0	29.5	---	---	---
2	26.5	24.0	25.5	29.0	27.5	28.0	---	---	---	24.5	22.5	23.5
3	26.0	24.5	25.0	28.5	27.5	28.0	---	---	---	25.5	24.0	24.5
4	25.5	24.5	25.0	28.5	27.5	28.0	---	---	---	26.0	25.0	25.5
5	25.5	24.5	25.0	29.0	28.0	28.5	---	---	---	26.0	25.5	25.5
6	25.5	24.0	25.0	28.5	28.0	28.0	---	---	---	25.5	24.0	24.5
7	26.0	25.0	25.5	28.5	27.5	28.0	---	---	---	24.0	23.5	24.0
8	26.0	25.5	26.0	28.5	27.5	28.0	---	---	---	24.0	23.5	23.5
9	26.0	25.0	25.5	28.0	27.0	27.5	---	---	---	24.5	23.5	24.0
10	28.0	26.0	26.5	28.0	27.5	28.0	---	---	---	25.0	24.0	24.5
11	28.0	27.0	27.5	28.5	27.5	28.0	---	---	---	25.5	24.5	25.0
12	27.0	26.0	26.5	28.5	27.5	28.0	---	---	---	25.5	25.0	25.0
13	26.5	25.5	26.0	29.0	28.0	28.5	---	---	---	25.5	24.5	25.0
14	26.5	25.5	26.0	29.0	28.0	28.5	---	---	---	25.5	24.5	25.0
15	26.5	26.0	26.0	28.5	28.0	28.0	---	---	---	25.5	25.0	25.5
16	27.0	25.0	26.5	28.0	27.0	27.5	---	---	---	26.0	25.5	25.5
17	25.5	24.5	25.0	28.5	27.0	28.0	---	---	---	26.0	25.0	25.5
18	26.5	25.0	25.5	28.5	27.5	28.0	---	---	---	26.0	25.0	25.5
19	28.5	26.0	27.0	29.0	27.5	28.0	---	---	---	26.0	25.0	25.5
20	28.0	26.5	27.0	29.0	28.0	28.5	---	---	---	25.5	25.0	25.5
21	27.0	26.5	26.5	29.0	28.0	28.5	---	---	---	25.5	24.5	25.0
22	27.0	26.5	27.0	29.0	28.0	28.5	---	---	---	24.5	24.0	24.5
23	27.0	26.5	27.0	29.0	28.0	28.5	---	---	---	25.0	24.0	24.5
24	27.0	26.5	27.0	29.0	28.0	28.5	---	---	---	25.5	24.5	25.0
25	28.0	26.5	27.0	29.0	28.0	28.5	---	---	---	25.5	24.5	25.0
26	27.5	26.5	27.0	29.0	28.5	28.5	---	---	---	26.0	25.0	25.5
27	27.5	26.0	26.5	29.5	28.5	29.0	---	---	---	26.5	25.0	26.0
28	28.0	26.5	27.0	29.5	28.5	29.0	---	---	---	26.0	25.5	25.5
29	27.5	27.0	27.5	29.5	28.5	29.0	---	---	---	26.0	25.0	25.5
30	28.0	27.0	27.5	29.5	28.5	29.0	---	---	---	26.5	25.0	26.0
31	---	---	---	30.0	29.0	29.5	---	---	---	---	---	---
MONTH	28.5	23.5	26.0	30.0	27.0	28.5	29.5	29.0	29.5	26.5	22.5	25.0

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	1.0	60	.16	448	150	181	224	25	15
2	.98	50	.13	246	122	81	413	27	30
3	1.3	37	.13	97	115	30	368	17	17
4	2.8	50	.38	106	105	30	149	17	6.8
5	2.9	62	.49	71	95	18	83	30	6.7
6	2.0	54	.29	27	70	5.1	58	17	2.7
7	1.4	40	.15	10	55	1.5	43	15	1.7
8	.99	50	.13	3.9	60	.63	33	22	2.0
9	.76	50	.10	2.3	50	.31	26	18	1.3
10	.56	25	.04	1.7	40	.18	22	12	.71
11	.40	15	.02	49	100	13	265	191	247
12	.27	15	.01	256	275	190	712	313	574
13	.18	15	.01	477	80	103	1100	120	356
14	.08	20	.00	443	55	66	949	95	243
15	.14	27	.01	130	62	22	445	80	96
16	40	238	46	53	70	10	149	65	26
17	56	239	39	144	60	23	91	52	13
18	19	82	4.2	198	60	32	65	35	6.1
19	7.6	42	.86	136	50	18	51	22	3.0
20	3.9	40	.42	57	60	9.2	42	22	2.5
21	5.1	60	.83	26	40	2.8	35	20	1.9
22	27	62	4.5	11	35	1.0	31	20	1.7
23	12	77	2.5	5.8	38	.60	27	20	1.5
24	6.7	60	1.1	95	142	95	23	18	1.1
25	3.6	50	.49	1580	612	2130	20	16	.86
26	2.0	37	.20	9200	291	7510	18	20	.97
27	1.9	440	2.3	3250	180	1580	16	20	.86
28	1.5	915	3.7	1860	90	452	14	15	.57
29	24	530	34	1120	50	151	13	15	.53
30	413	210	234	530	40	57	12	15	.49
31	479	150	194	---	---	---	11	12	.36

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	11	12	.36	5.3	25	.36	5.6	20	.30
2	9.6	15	.39	4.8	32	.41	5.5	20	.30
3	9.0	18	.44	4.8	37	.48	5.5	18	.27
4	9.0	20	.49	59	67	11	5.6	30	.45
5	8.0	18	.39	435	190	223	9.0	25	.61
6	7.1	20	.38	376	90	91	9.4	20	.51
7	6.4	25	.43	166	47	21	7.1	20	.38
8	6.0	25	.41	105	45	13	6.4	18	.31
9	5.8	25	.39	62	46	7.7	5.9	20	.32
10	6.5	17	.30	45	45	5.5	5.4	25	.36
11	9.7	17	.45	40	36	3.9	5.2	20	.28
12	11	20	.59	47	35	4.4	4.5	22	.27
13	9.3	16	.40	46	31	3.9	4.1	20	.22
14	8.5	20	.46	37	30	3.0	3.6	22	.21
15	7.9	17	.36	31	27	2.3	3.4	20	.18
16	7.9	20	.43	27	27	2.0	3.4	20	.18
17	41	55	6.1	24	30	1.9	3.3	20	.18
18	107	105	30	21	27	1.5	3.3	23	.20
19	83	95	21	19	25	1.3	3.2	18	.16
20	47	60	7.6	18	20	.97	2.9	18	.14
21	32	32	2.8	15	18	.73	2.9	15	.12
22	21	27	1.5	14	20	.76	2.9	18	.14
23	15	30	1.2	12	21	.68	2.8	20	.15
24	11	25	.74	11	18	.53	2.5	22	.15
25	9.6	25	.65	11	21	.62	2.4	22	.14
26	7.5	25	.51	9.6	20	.52	2.4	20	.13
27	6.2	22	.37	7.6	20	.41	2.3	20	.12
28	6.0	25	.41	6.2	22	.37	2.1	20	.11
29	6.4	22	.38	---	---	---	2.1	21	.12
30	6.0	22	.36	---	---	---	2.1	20	.11
31	5.5	20	.30	---	---	---	1.9	29	.15

08065800 BEDIAS CREEK NEAR MADISONVILLE, TX--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	1.8	30	.15	404	100	109	10	30	.81
2	1.8	25	.12	1060	60	172	8.4	30	.68
3	1.8	25	.12	2950	32	255	7.8	37	.78
4	1.8	30	.15	1970	25	133	7.8	42	.88
5	1.8	22	.11	692	47	88	34	30	2.8
6	1.7	25	.11	118	55	18	108	40	12
7	1.6	32	.14	62	47	7.9	546	114	168
8	1.6	30	.13	47	22	2.8	681	85	156
9	1.6	34	.15	40	25	2.7	779	117	246
10	2.1	30	.17	33	35	3.1	957	130	336
11	3.6	55	.53	31	86	7.2	1050	157	445
12	7.9	67	1.4	28	209	16	423	95	108
13	7.2	57	1.1	24	249	16	253	67	46
14	12	55	1.8	24	210	14	96	60	16
15	9.0	40	.97	20	267	14	50	62	8.4
16	6.3	39	.66	16	190	8.2	51	209	29
17	4.6	35	.43	89	295	71	520	382	536
18	3.8	35	.36	637	180	310	788	160	340
19	3.1	41	.34	1060	70	200	1120	60	181
20	2.9	52	.41	1170	70	221	655	43	76
21	2.8	35	.26	441	80	95	124	40	13
22	2.8	32	.24	74	55	11	60	39	6.3
23	2.6	35	.25	46	40	5.0	37	42	4.2
24	2.9	35	.27	35	80	7.6	24	40	2.6
25	3.4	35	.32	144	117	45	16	40	1.7
26	3.4	32	.29	61	75	12	11	52	1.5
27	7.0	67	5.3	54	75	11	21	36	2.0
28	316	503	406	34	52	4.8	96	30	7.8
29	515	212	295	21	40	2.3	42	27	3.1
30	424	90	103	14	37	1.4	20	25	1.4
31	---	---	---	12	30	.97	---	---	---

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	10	26	.70	.13	20	.01	.00	---	---
2	6.1	30	.49	.13	15	.01	.11	40	.01
3	3.9	30	.32	.09	15	.00	1.3	50	.18
4	2.8	27	.20	.02	12	.00	.90	55	.13
5	2.0	35	.19	.00	---	---	.40	53	.06
6	1.5	32	.13	.00	---	---	1.3	57	.20
7	1.2	25	.08	.00	---	---	124	117	39
8	1.0	20	.05	.00	---	---	126	171	58
9	.91	26	.06	.00	---	---	67	215	39
10	.89	25	.06	.00	---	---	44	215	26
11	.86	30	.07	6.0	10	.16	22	162	9.6
12	.78	37	.08	.54	17	.02	26	52	3.7
13	.69	42	.08	.05	15	.00	32	22	1.9
14	.63	41	.07	.00	---	---	7.0	17	.32
15	.58	39	.06	.00	---	---	3.7	24	.24
16	.55	36	.05	.00	---	---	3.4	22	.20
17	.55	30	.04	.00	---	---	2.3	25	.16
18	.50	26	.04	.00	---	---	1.7	25	.11
19	.39	25	.03	.00	---	---	1.5	25	.10
20	.34	18	.02	.00	---	---	1.3	25	.09
21	.27	20	.01	.00	---	---	1.1	27	.08
22	.21	20	.01	.00	---	---	122	52	17
23	.20	17	.01	.00	---	---	84	137	31
24	.20	15	.01	.00	---	---	21	137	7.8
25	.19	12	.01	.00	---	---	6.7	82	1.5
26	.17	17	.01	.00	---	---	3.5	43	.41
27	.17	22	.01	.00	---	---	2.4	20	.13
28	.17	25	.01	.00	---	---	1.7	22	.10
29	.17	22	.01	.00	---	---	1.8	25	.12
30	.17	15	.01	.00	---	---	2.1	22	.12
31	.15	15	.01	.00	---	---	---	---	---

08066170 KICKAPOO CREEK NEAR ONALASKA, TX

LOCATION.--Lat 30°54'25", long 95°05'18", Polk County, Hydrologic Unit 12030202, on right bank 114 ft downstream from old bridge site, 1.2 mi downstream from Magnolia Creek, 6.2 mi upstream from Rocky Creek, 7.3 mi northeast of Onalaska, and 15.9 mi upstream from mouth.

DRAINAGE AREA.--57.0 mi^2.

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 139.85 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1-3, 8-25, 28-31, Nov. 2-3, Nov. 11 to Dec. 1, Dec. 11-14, Jan. 29 to Mar. 20 and June 7 to July 17. Records good except those for estimated daily discharges, which are poor. There is no diversion above station. Low flow is sustained by sewage effluent. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--20 years (water years 1967-86), 42.2 ft^3/s (10.05 in/yr), 30,570 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,500 ft^3/s June 7, 1981, from rating curve extended above 6,800 ft^3/s on basis of slope-area measurement of peak flow, gage height, 30.37 ft; minimum, 0.01 ft^3/s July 19, 20, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 26	unknown	3,200	about 13.4	June 17	2230	*6,380	*17.90
June 7	1730	3,710	14.20				

Minimum daily discharge, 0.10 ft^3/s Aug. 4-9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	57	120	3.3	2.7	2.9	1.6	106	46	5.0	.15	106
2	3.3	66	62	3.1	2.6	2.8	1.6	518	12	3.5	.14	62
3	2.3	72	33	2.8	2.6	3.0	1.6	105	5.6	2.7	.12	19
4	1.3	27	25	2.5	250	10	1.6	29	14	2.2	.10	12
5	.90	15	22	2.3	80	7.0	1.6	15	380	1.7	.10	23
6	.78	10	18	2.2	100	5.0	1.6	9.5	204	1.5	.10	255
7	.75	7.3	15	2.1	50	4.0	1.6	6.2	621	1.2	.10	59
8	.75	5.5	13	2.0	23	3.5	1.6	4.3	673	1.0	.10	34
9	.80	4.7	12	3.0	14	3.2	1.5	3.1	471	.85	.10	24
10	.85	4.0	10	140	35	3.0	6.4	55	159	.75	.11	6.3
11	.82	30	150	43	26	3.0	11	62	97	.65	47	2.7
12	.80	160	400	19	20	4.0	5.6	14	60	.55	26	18
13	.75	60	300	12	16	4.0	8.5	5.8	22	.48	2.3	8.6
14	1.0	40	65	8.9	14	3.5	4.4	3.3	13	.42	.73	2.8
15	10	16	37	7.3	12	3.0	2.5	5.2	6.8	.38	.37	1.5
16	9.0	14	24	6.6	11	2.7	1.6	8.9	5.5	.34	.28	.99
17	6.0	40	19	6.4	10	2.5	1.4	419	698	.30	.24	.84
18	3.5	20	16	6.4	8.9	2.4	1.3	408	973	.28	.20	.73
19	20	15	13	6.4	7.8	2.3	1.3	58	180	1.2	.18	.67
20	40	8.0	10	5.8	6.8	2.2	4.8	28	62	.58	.18	.90
21	10	6.0	8.3	5.3	6.0	2.0	4.3	16	25	.33	.18	5.0
22	20	5.0	7.3	4.6	5.5	1.9	2.2	10	13	.23	.34	7.4
23	15	4.0	7.0	4.3	5.0	1.8	1.6	6.7	8.3	.21	1.6	6.0
24	9.0	50	6.1	4.0	4.5	1.8	1.2	35	6.4	.21	13	2.4
25	6.0	250	4.3	3.6	4.0	1.8	1.1	110	5.5	.20	4.4	1.6
26	4.3	800	3.6	3.3	3.6	1.8	1.0	16	55	.18	.58	1.2
27	3.3	300	3.3	3.2	3.3	1.8	6.6	24	270	.17	.30	1.0
28	30	200	3.2	3.1	3.1	1.8	201	37	45	.15	86	1.1
29	70	100	3.2	3.0	---	1.8	23	11	17	.15	8.7	2.9
30	110	50	3.3	2.9	---	1.8	13	70	9.0	.15	1.3	2.0
31	140	---	3.4	2.8	---	1.7	---	56	---	.15	.47	---
TOTAL	525.90	2436.5	1417.0	325.2	727.4	94.0	318.1	2255.0	5157.1	27.71	195.47	668.63
MEAN	17.0	81.2	45.7	10.5	26.0	3.03	10.6	72.7	172	.89	6.31	22.3
MAX	140	800	400	140	250	10	201	518	973	5.0	86	255
MIN	.75	4.0	3.2	2.0	2.6	1.7	1.0	3.1	5.5	.15	.10	.67
CFSM	.30	1.42	.80	.18	.46	.05	.19	1.28	3.02	.02	.11	.39
IN.	.34	1.59	.92	.21	.47	.06	.21	1.47	3.37	.02	.13	.44
AC-FT	1040	4830	2810	645	1440	186	631	4470	10230	55	388	1330

CAL YR 1985 TOTAL 11137.73 MEAN 30.5 MAX 800 MIN .13 CFSM .54 IN. 7.27 AC-FT 22090
WTR YR 1986 TOTAL 14148.01 MEAN 38.8 MAX 973 MIN .10 CFSM .68 IN. 9.23 AC-FT 28060

08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX

LOCATION.--Lat 30°38'00", long 95°00'36", Polk-San Jacinto County line, Hydrologic Unit 12030202, on upstream wingwall at left end of gated spillway at Livingston Dam on Trinity River, 4.4 mi northwest of Goodrich, 7 mi southwest of Livingston, 11.7 mi upstream from Long King Creek, and at mile 129.2.

DRAINAGE AREA.--16,583 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Trinity River Authority). Prior to Feb. 26, 1969, temporary nonrecording gages at site about 200 ft upstream and at same datum.

REMARKS.--The reservoir is formed by an earthfill dam 14,400 ft long. The dam was completed Sept. 29, 1968, and deliberate impoundment began June 26, 1969. The reservoir is operated for industrial water supply in the Houston metropolitan area. The spillway has twelve 40- by 35-foot tainter gates located near the left end of dam. Low-flow releases may be made through multi-gated inlet tower. There are five gated openings at various elevations located in the tower, and all discharge into a 10-foot-diameter concrete conduit through the dam. Flow is affected at times by discharge from the flood-detention pools of 255 floodwater-retarding structures with a combined detention capacity of 184,600 acre-ft. These structures control runoff from 617 mi^2 in the Richland, Chambers, Tehuacana, and Bedias Creeks drainage basins. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam..	145.0	-
Design flood..	135.0	2,136,000
Top of tainter gates..	134.0	2,046,000
Top of conservation pool..	131.0	1,788,000
Crest of spillway (sill of tainter gates)...........................	99.0	157,900
Lowest gated outlet (invert)..	58.0	335

COOPERATION.--The capacity table, furnished by the Trinity River Authority, is based on Geological Survey topographic maps.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,948,000 acre-ft May 23, 1983 (elevation, 132.88 ft); minimum since conservation pool capacity was reached on Nov. 2, 1971, 1,415,000 acre-ft Nov. 19, 1978 (elevation, 126.19 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,930,000 acre-ft Nov. 27 at 2400 hours to Nov. 28 at 0600 hours (elevation, 132,68 ft); minimum, 1,636,000 acre-ft Oct. 7 (elevation, 129.11 ft).

Capacity table (elevation, in feet, and total contents, in acre-feet)

129.0	1,627,000
131.0	1,788,000
133.0	1,958,000

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1642000	1849000	1842000	1793000	1793000	1799000	1753000	1849000	1823000	1792000	1775000	1735000
2	1639000	1844000	1823000	1798000	1792000	1804000	1752000	1866000	1805000	1793000	1771000	1734000
3	1638000	1833000	1808000	1800000	1798000	1809000	1752000	1866000	1793000	1793000	1770000	1730000
4	1646000	1820000	1811000	1807000	1803000	1807000	1752000	1852000	1793000	1787000	1764000	1727000
5	1643000	1801000	1804000	1807000	1822000	1802000	1754000	1843000	1806000	1788000	1758000	1731000
6	1642000	1793000	1798000	1806000	1834000	1798000	1754000	1831000	1824000	1795000	1754000	1744000
7	1637000	1784000	1793000	1813000	1849000	1791000	1752000	1816000	1847000	1797000	1751000	1753000
8	1641000	1779000	1782000	1814000	1857000	1789000	1767000	1805000	1877000	1798000	1750000	1758000
9	1639000	1780000	1772000	1817000	1869000	1784000	1778000	1797000	1886000	1797000	1751000	1756000
10	1642000	1782000	1768000	1817000	1879000	1792000	1797000	1801000	1881000	1792000	1759000	1757000
11	1642000	1829000	1817000	1817000	1881000	1787000	1805000	1801000	1877000	1791000	1762000	1763000
12	1639000	1822000	1839000	1818000	1891000	1786000	1816000	1811000	1872000	1791000	1761000	1770000
13	1639000	1809000	1851000	1815000	1887000	1788000	1809000	1818000	1862000	1794000	1757000	1770000
14	1645000	1805000	1853000	1814000	1899000	1784000	1813000	1832000	1855000	1797000	1750000	1770000
15	1662000	1805000	1861000	1812000	1898000	1782000	1809000	1848000	1851000	1801000	1749000	1771000
16	1661000	1810000	1865000	1813000	1901000	1779000	1807000	1851000	1855000	1798000	1750000	1775000
17	1662000	1830000	1868000	1813000	1892000	1776000	1799000	1879000	1897000	1803000	1753000	1782000
18	1667000	1827000	1877000	1815000	1862000	1779000	1799000	1899000	1906000	1803000	1753000	1787000
19	1683000	1833000	1886000	1813000	1833000	1780000	1801000	1897000	1905000	1807000	1749000	1792000
20	1683000	1828000	1892000	1813000	1811000	1775000	1806000	1890000	1899000	1804000	1748000	1793000
21	1689000	1828000	1898000	1813000	1795000	1769000	1808000	1875000	1888000	1799000	1742000	1798000
22	1702000	1820000	1904000	1812000	1783000	1764000	1805000	1862000	1875000	1798000	1735000	1801000
23	1723000	1819000	1898000	1803000	1782000	1766000	1803000	1854000	1855000	1792000	1736000	1799000
24	1748000	1826000	1879000	1807000	1788000	1762000	1810000	1854000	1834000	1785000	1738000	1798000
25	1773000	1873000	1840000	1809000	1793000	1761000	1817000	1876000	1813000	1786000	1735000	1797000
26	1798000	1901000	1808000	1805000	1798000	1766000	1823000	1868000	1832000	1786000	1734000	1794000
27	1834000	1930000	1793000	1798000	1805000	1766000	1834000	1876000	1826000	1784000	1730000	1793000
28	1847000	1917000	1782000	1795000	1803000	1761000	1869000	1867000	1815000	1784000	1741000	1791000
29	1851000	1886000	1780000	1798000	---	1757000	1859000	1857000	1798000	1783000	1738000	1788000
30	1864000	1854000	1784000	1793000	---	1756000	1839000	1851000	1789000	1782000	1735000	1786000
31	1854000	---	1790000	1793000	---	1753000	---	1840000	---	1777000	1729000	---
MAX	1864000	1930000	1904000	1818000	1901000	1809000	1869000	1899000	1906000	1807000	1775000	1801000
MIN	1637000	1779000	1768000	1793000	1782000	1753000	1752000	1797000	1789000	1777000	1729000	1727000
(†)	131.79	131.79	131.02	131.05	131.17	130.57	131.60	131.62	131.01	130.86	130.27	130.97
(‡)	+211000	0	-64000	+3000	+10000	-50000	+86000	+1000	-51000	-12000	-48000	+57000

CAL YR 1985 MAX 1930000 MIN 1637000 (‡) -55000
WTR YR 1986 MAX 1930000 MIN 1637000 (‡) +143000

(†) Elevation, in feet, at end of month.
(‡) Change in, contents in acre feet.

08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1969 to current year.

303807095011101 - LIVINGSTON RES SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
FEB									
04...	1322	1.00	290	7.90	12.5	0.35	9.3	88	96
04...	1324	10.0	290	7.90	12.0	--	9.2	86	--
04...	1326	20.0	290	7.90	12.0	--	9.1	85	--
04...	1328	30.0	290	7.80	11.5	--	9.0	83	--
04...	1330	40.0	290	7.90	11.5	--	9.0	83	--
04...	1332	50.0	290	7.80	11.5	--	8.9	82	--
04...	1334	60.0	290	7.80	11.5	--	8.8	81	--
04...	1336	74.0	290	7.80	11.0	--	8.4	77	96
SEP									
03...	1128	1.00	315	8.40	29.5	0.69	6.9	--	120
03...	1130	10.0	315	8.00	28.5	--	5.4	--	--
03...	1132	20.0	315	7.80	28.0	--	3.9	--	--
03...	1134	30.0	315	7.80	28.0	--	3.9	--	--
03...	1136	40.0	315	7.80	28.0	--	3.9	--	--
03...	1138	50.0	320	7.60	27.5	--	2.9	--	--
03...	1140	60.0	340	7.40	26.5	--	0	0	--
03...	1142	73.0	410	7.20	24.0	--	0	0	140

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
FEB									
04...	16	33	3.2	19	0.9	4.6	80	20	24
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	17	33	3.3	19	0.9	4.7	79	26	19
SEP									
03...	14	41	3.7	18	0.8	5.3	104	30	19
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	0	50	4.5	24	0.9	5.1	166	10	23

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
FEB									
04...	0.2	8.0	160	0.70	0.6	0.16	--	51	<1
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	0.70	0.7	0.16	5.5	40	<10
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	8.3	160	0.70	1.0	0.20	--	69	18
SEP									
03...	0.3	6.4	190	<0.10	0.6	0.13	--	8	14
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	<0.10	0.7	0.14	--	<10	110
03...	--	--	--	<0.10	0.8	0.16	--	20	650
03...	--	--	--	--	--	--	--	--	--
03...	--	17	240	<0.10	5.0	3.70	--	1700	4800

303821095005001 - LIVINGSTON RES SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
FEB								
04...	1307	1.00	290	7.90	12.5	0.33	9.4	89
04...	1309	10.0	290	7.90	12.0	--	9.3	87
04...	1311	20.0	290	7.90	12.0	--	9.2	86
04...	1313	30.0	290	7.90	12.0	--	9.1	85
04...	1315	40.0	290	7.90	11.5	--	9.0	83
04...	1317	50.0	290	7.80	11.5	--	8.4	77
04...	1319	65.0	290	7.80	11.5	--	8.1	75
SEP								
03...	1224	1.00	315	8.60	30.0	0.59	8.3	--
03...	1226	10.0	320	8.00	28.5	--	4.8	--
03...	1228	20.0	320	7.90	28.0	--	4.0	--
03...	1230	30.0	320	7.80	28.0	--	3.9	--
03...	1232	40.0	320	7.90	28.0	--	3.6	--
03...	1234	50.0	320	7.90	28.0	--	3.4	--

303935095055401 - LIVINGSTON RES SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
FEB								
04...	1238	1.00	290	7.90	13.0	0.31	9.0	86
04...	1240	10.0	290	7.90	12.0	--	9.0	84
04...	1242	20.0	290	7.90	12.0	--	9.0	84
04...	1244	30.0	290	7.90	11.5	--	8.8	81
04...	1246	40.0	290	7.90	11.5	--	8.7	80
04...	1248	50.0	290	7.80	11.0	--	8.4	77
04...	1250	60.0	290	7.80	11.0	--	8.4	77
SEP								
03...	1056	1.00	325	8.60	29.5	0.6	7.7	--
03...	1058	10.0	325	8.20	28.5	--	5.1	--
03...	1100	20.0	330	8.10	28.0	--	4.3	--
03...	1102	30.0	330	8.10	28.0	--	4.2	--
03...	1104	40.0	330	8.10	28.0	--	4.2	--
03...	1106	50.0	335	8.10	28.0	--	3.9	--
03...	1108	63.0	335	7.70	27.5	--	1.9	--

304144095073001 - LIVINGSTON RES SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
FEB								
04...	1204	1.00	290	8.00	12.5	0.35	9.6	90
04...	1206	10.0	290	8.00	12.5	--	9.5	90
04...	1208	20.0	290	7.90	12.0	--	9.4	88
04...	1210	30.0	290	7.90	12.0	--	9.4	88
04...	1212	40.0	295	7.90	12.0	--	9.1	85
04...	1214	56.0	320	7.90	11.5	--	8.1	75
SEP								
03...	1030	1.00	330	8.60	28.5	0.57	7.1	--
03...	1032	10.0	330	8.40	28.0	--	6.0	--
03...	1034	20.0	330	8.30	28.0	--	5.4	--
03...	1036	30.0	335	8.20	27.5	--	4.1	--
03...	1038	40.0	350	8.00	27.5	--	2.6	--
03...	1040	50.0	350	8.00	27.5	--	2.6	--
03...	1042	58.0	350	8.00	27.5	--	2.5	--

LIVINGSTON RESERVOIR NEAR GOODRICH, TX--Continued

304521095075501 - LIVINGSTON RES SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
FEB									
04...	1122	1.00	290	8.10	13.0	0.33	9.6	92	99
04...	1124	10.0	290	8.10	13.0	--	9.4	90	--
04...	1126	20.0	300	8.20	13.0	--	9.3	89	--
04...	1128	30.0	310	8.20	12.5	--	9.1	86	--
04...	1130	40.0	320	8.30	12.5	--	8.6	81	--
04...	1132	50.0	360	8.40	12.0	--	8.0	75	--
04...	1134	57.0	385	8.30	12.0	--	7.9	74	120
SEP									
03...	0942	1.00	335	8.70	28.5	0.57	7.2	--	130
03...	0944	10.0	335	8.50	28.0	--	6.4	--	--
03...	0946	20.0	350	8.30	27.5	--	4.6	--	--
03...	0948	30.0	380	8.10	27.5	--	3.3	--	--
03...	0950	40.0	415	7.90	27.0	--	1.7	21	--
03...	0952	50.0	420	7.90	27.0	--	1.5	19	--
03...	0954	59.0	420	8.00	27.0	--	1.5	19	140

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
FEB									
04...	17	34	3.3	19	0.9	4.4	82	21	18
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	24	42	4.1	26	1	4.7	98	40	27
SEP									
03...	14	44	3.9	21	0.9	5.2	112	29	21
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	15	48	4.4	32	1	5.6	123	39	31

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
FEB								
04...	7.9	160	0.70	0.6	0.17	2.3	31	1
04...	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--
04...	--	--	0.80	0.7	0.20	--	60	<10
04...	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--
04...	7.4	210	1.00	1.1	0.33	--	10	15
SEP								
03...	6.3	200	<0.10	0.7	0.16	--	11	2
03...	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--
03...	--	--	0.20	0.8	0.21	--	<10	20
03...	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--
03...	5.9	240	0.40	1.2	0.26	--	29	72

304453095064901 - LIVINGSTON RES SITE DL

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
FEB								
04...	1110	1.00	290	8.00	13.0	0.3	9.8	93
04...	1112	10.0	290	8.00	12.5	--	9.8	92
04...	1114	22.0	290	8.00	12.5	--	9.9	93
SEP								
03...	0928	1.00	330	8.70	28.5	0.53	7.6	--
03...	0930	10.0	330	8.60	28.5	--	6.8	--
03...	0932	20.0	345	8.30	27.5	--	4.6	--

LIVINGSTON RESERVOIR NEAR GOODRICH, TX--Continued

304659095052001 - LIVINGSTON RES SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)
FEB							
04...	1052	1.00	290	7.90	14.0	0.31	9.1
04...	1054	10.0	290	7.70	13.5	--	8.6
04...	1056	20.0	290	7.50	13.5	--	8.1
04...	1058	32.0	290	7.20	12.5	--	8.0
SEP							
03...	0906	1.00	345	8.60	28.5	0.44	6.7
03...	0908	10.0	345	8.20	28.0	--	4.8
03...	0910	20.0	355	7.70	27.5	--	2.5
03...	0912	30.0	355	7.30	27.5	--	2.1

DATE	OXYGEN, DISSOLVED (PERCENT SATURATION)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
FEB						
04...	89	0.70	0.7	0.15	50	<10
04...	83	--	--	--	--	--
04...	78	--	--	--	--	--
04...	76	0.60	0.8	0.16	70	20
SEP						
03...	--	<0.10	0.9	0.17	<10	<10
03...	--	--	--	--	--	--
03...	--	--	--	--	--	--
03...	--	<0.10	1.0	0.25	10	40

304843095104001 - LIVINGSTON RES SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
FEB								
04...	1415	1.00	370	8.90	15.0	0.37	10.8	108
04...	1417	10.0	380	8.90	14.5	--	9.8	97
04...	1419	20.0	380	8.90	14.0	--	9.8	96
04...	1421	30.0	380	8.90	14.0	--	9.8	96
04...	1423	40.0	380	8.80	14.0	--	9.6	94
04...	1425	50.0	385	8.80	13.5	--	9.4	91
04...	1427	59.0	390	8.80	13.5	--	9.3	90
SEP								
03...	1340	1.00	370	8.60	29.0	0.35	7.5	--
03...	1342	10.0	390	8.30	27.5	--	4.1	--
03...	1344	20.0	400	8.10	27.5	--	3.0	--
03...	1346	30.0	425	8.00	27.5	--	1.9	--
03...	1348	40.0	445	7.90	27.0	--	1.3	16
03...	1350	50.0	460	7.80	27.0	--	0.6	8
03...	1352	64.0	465	7.90	27.0	--	0.6	8

305411095144901 - LIVINGSTON RES SITE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME *	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
FEB									
04...	1454	1.00	390	9.40	17.5	0.27	12.8	135	130
04...	1456	10.0	425	9.20	16.5	--	8.8	91	--
04...	1458	20.0	425	9.20	16.5	--	8.7	90	--
04...	1500	30.0	380	8.60	15.0	--	8.0	80	--
04...	1502	40.0	380	8.50	14.5	--	7.8	77	--
04...	1504	51.0	400	8.40	14.5	--	7.6	75	110
SEP									
03...	1425	1.00	430	9.40	31.0	0.23	15.3	--	140
03...	1427	10.0	485	8.20	28.0	--	3.4	--	--
03...	1429	20.0	485	8.10	27.5	--	2.6	--	--
03...	1431	30.0	485	8.00	27.5	--	1.9	--	--
03...	1433	40.0	500	7.90	27.0	--	0.9	11	--
03...	1435	47.0	500	7.80	27.0	--	0.8	10	150

305411095144901 - LIVINGSTON RES SITE GC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)
FEB								
04...	28	44	4.5	31	1	4.6	100	46
04...	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--
04...	38	37	4.9	33	1	4.7	75	58
SEP								
03...	17	48	4.5	40	2	5.9	121	46
03...	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--
03...	17	51	4.8	45	2	6.3	130	49

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
FEB								
04...	30	4.0	220	0.80	1.4	0.35	13	<1
04...	--	--	--	--	--	--	--	--
04...	--	--	--	0.90	1.1	0.33	40	<10
04...	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--
04...	36	9.0	230	1.00	1.4	0.37	62	22
SEP								
03...	38	4.7	260	<0.10	2.0	0.30	9	<1
03...	--	--	--	--	--	--	--	--
03...	--	--	--	1.00	1.2	0.40	<10	<10
03...	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--
03...	43	6.2	280	0.90	1.4	0.41	11	23

305447095161401 - LIVINGSTON RES SITE HC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)
FEB							
04...	1523	1.00	420	9.20	17.0	0.27	8.9
04...	1525	10.0	340	8.60	15.0	--	8.4
04...	1527	20.0	340	8.40	15.0	--	8.1
04...	1529	30.0	350	8.10	14.5	--	7.5
04...	1531	40.0	380	7.90	13.5	--	6.5
SEP							
03...	1500	1.00	430	9.30	31.0	0.2	14.0
03...	1502	10.0	380	7.80	27.5	--	3.5
03...	1504	20.0	380	7.70	27.0	--	2.7
03...	1506	30.0	300	7.70	27.5	--	2.5
03...	1508	40.0	380	8.10	27.5	--	2.0

DATE	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
FEB						
04...	93	0.90	1.2	0.40	30	<10
04...	84	--	--	--	--	--
04...	81	--	--	--	--	--
04...	74	--	--	--	--	--
04...	63	0.50	0.9	0.15	90	60
SEP						
03...	--	<0.10	2.0	0.27	<10	20
03...	--	--	--	--	--	--
03...	34	--	--	--	--	--
03...	--	--	--	--	--	--
03...	--	0.20	1.5	0.22	<10	120

305135095193601 - LIVINGSTON RES SITE IC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
FEB								
05...	0912	1.00	600	8.00	14.5	0.55	8.5	84
05...	0914	10.0	600	7.90	14.5	--	8.3	82
05...	0916	20.0	610	7.90	14.5	--	8.3	82
05...	0918	30.0	610	7.90	14.5	--	8.3	82
05...	0920	42.0	610	7.90	14.5	--	8.1	80
SEP								
04...	0918	1.00	500	7.90	29.0	0.39	5.2	--
04...	0920	10.0	500	7.50	28.5	--	1.2	--
04...	0922	20.0	500	7.40	28.0	--	0.1	--
04...	0924	30.0	510	7.40	27.5	--	0	--
04...	0926	44.0	510	7.60	27.5	--	0	--

305135095235401 - LIVINGSTON RES SITE JC

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)
FEB									
05...	1000	1.00	630	8.60	14.5	0.38	11.5	113	160
05...	1002	10.0	630	8.50	14.5	--	11.4	112	--
05...	1004	20.0	630	[illegible]	14.5	--	11.4	112	--
05...	1006	30.0	630	[illegible]	14.5	--	11.3	111	--
05...	1008	40.0	630	[illegible].50	14.5	--	11.3	111	160
SEP									
04...	0838	1.00	575	[illegible].00	29.0	0.44	6.4	--	160
04...	0840	10.0	590	7.70	29.0	--	4.4	--	--
04...	0842	20.0	595	7.60	28.5	--	3.5	--	--
04...	0844	30.0	530	7.60	28.0	--	2.4	--	--
04...	0846	38.0	500	7.80	27.5	--	1.2	--	140

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)
FEB								
05...	52	54	7.2	60	2	6.3	113	78
05...	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--
05...	52	54	7.2	60	2	6.3	113	77
SEP								
04...	37	56	4.8	54	2	7.4	123	64
04...	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--
04...	20	49	4.0	45	2	6.5	119	49

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
FEB								
05...	66	6.6	350	3.30	1.4	1.20	9	<1
05...	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--
05...	67	6.7	350	3.40	1.4	1.10	12	<1
SEP								
04...	53	8.7	320	3.30	1.1	0.89	6	<1
04...	--	--	--	--	--	--	--	--
04...	--	--	--	3.50	1.1	0.98	10	10
04...	--	--	--	--	--	--	--	--
04...	47	8.1	280	1.40	1.3	0.47	26	40

08066191 LIVINGSTON RESERVOIR AT OUTFLOW WEIR NEAR GOODRICH, TX

LOCATION.--Lat 30°37'55", long 95°01'11", San Jacinto County, Hydrologic Unit 12030202, at end of conduit into stilling basin, 1,700 ft to right of right spillway abutment, 4.8 mi northwest of Goodrich, 11.7 mi upstream from Long King Creek, and at mile 129.2.

DRAINAGE AREA.--16,583 mi².

PERIOD OF RECORD.--August 1969 to current year.

GAGE.--Water-stage recorder, concrete control, and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Trinity River Authority). Oct. 1, 1974, to Jan. 30, 1976, staff gage and control only.

REMARKS.--No estimated daily discharges. Records fair. For details concerning outlet works, see Livingston Reservoir (station 08066190). The purpose of this station is to record selective withdrawal releases at outflow weir, crest 61.90 ft. These releases do not constitute the total flow from Livingston Reservoir since flow through taintor gates is not included in these totals.

AVERAGE DISCHARGE.--17 years, 209 ft³/s (151,400 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,990 ft³/s Jan 7, 1982; maximum elevation, about 93.0 ft June 14, 1973 (backwater from Trinity River); no flow for many days.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 388 ft³/s Aug. 9, 10; maximum elevation, 78.65 ft Nov. 28 at 2200 hours to Nov. 29 at 0800 hours (backwater from Trinity River); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	.00	.00	102	111	268	293	.00	.00	.00	324	337
2	93	.00	.00	105	111	268	201	.00	.00	.00	332	341
3	96	.00	.00	108	111	268	96	.00	.00	.00	324	341
4	96	.00	.00	105	114	268	293	.00	.00	.00	138	337
5	96	.00	.00	105	117	268	281	.00	.00	.00	.00	341
6	96	.00	.00	105	60	268	268	.00	.00	.00	.00	332
7	93	44	.00	105	.00	260	268	.00	.00	94	.00	293
8	99	99	.00	105	.00	260	268	.00	.00	302	82	332
9	99	93	.00	105	.00	281	281	96	.00	293	388	341
10	96	93	.00	111	.00	260	293	324	.00	293	388	341
11	96	50	.00	111	.00	268	323	306	.00	268	383	346
12	99	.00	.00	108	.00	268	341	306	.00	268	378	346
13	102	.00	.00	111	.00	260	341	324	.00	256	369	346
14	102	.00	.00	108	.00	248	341	332	.00	268	350	346
15	102	.00	.00	108	.00	248	337	124	.00	268	346	350
16	102	.00	.00	105	.00	248	337	.00	.00	268	341	346
17	102	.00	.00	114	.00	248	337	.00	.00	268	337	341
18	105	.00	.00	117	.00	248	337	.00	.00	256	332	337
19	105	.00	.00	114	.00	248	337	.00	.00	256	332	337
20	105	.00	.00	111	.00	256	337	.00	.00	256	337	337
21	105	.00	.00	108	.00	268	337	.00	.00	256	337	337
22	105	.00	.00	111	.00	248	337	.00	.00	256	337	328
23	105	.00	.00	111	.00	281	297	.00	.00	256	337	328
24	105	.00	.00	114	.00	268	204	.00	.00	256	337	328
25	105	.00	.00	111	123	281	281	.00	.00	281	341	302
26	105	.00	.00	111	293	293	341	.00	.00	281	341	293
27	108	.00	.00	111	293	293	341	.00	.00	315	341	293
28	50	.00	.00	111	268	293	115	.00	.00	315	341	293
29	.00	.00	.00	111	---	293	.00	.00	.00	315	341	293
30	.00	.00	.00	111	---	293	.00	.00	.00	332	346	293
31	.00	---	55	111	---	293	---	.00	---	324	346	---
TOTAL	2768.00	379.00	55.00	3384	1601.00	8313	8163.00	1812.00	.00	6801.00	9226.00	9856
MEAN	89.3	12.6	1.77	109	57.2	268	272	58.5	.00	219	298	329
MAX	108	99	55	117	293	293	341	332	.00	332	388	350
MIN	.00	.00	.00	102	.00	248	.00	.00	.00	.00	.00	293
AC-FT	5490	752	109	6710	3180	16490	16190	3590	.00	13490	18300	19550

CAL YR 1985	TOTAL 50830.00	MEAN	139	MAX 577	MIN .00	AC-FT	100800
WTR YR 1986	TOTAL 52358.00	MEAN	143	MAX 388	MIN .00	AC-FT	103900

08066200 LONG KING CREEK AT LIVINGSTON, TX

LOCATION.--Lat 30°42'58", long 94°57'31", Polk County, Hydrologic Unit 12030202, on right bank at downstream side of bridge on U.S. Highway 190, 2 mi west of Livingston, 2 mi upstream from Choates Creek, and 14.8 mi upstream from mouth.

DRAINAGE AREA.--141 mi^2.

PERIOD OF RECORD.--January 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 100.12 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 11-13, Mar. 23-30, July 26 to Aug. 10, Aug. 16-23, and Sept. 26-30. Records good except those for estimated daily discharges, which are poor. No diversion above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--23 years, 93.0 ft^3/s (8.96 in/yr), 67,380 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,500 ft^3/s Nov. 5, 1973 (gage height, 27.06 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1870, about 41 ft in May 1929.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 3	0300	2,610	10.38	June 27	0430	*7,850	*17.84
June 8	1900	4,580	13.77				

Minimum discharge, 1.1 ft^3/s Oct. 8, 10, and 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	108	68	18	9.7	9.1	6.6	97	45	39	3.9	7.3
2	3.7	72	59	17	9.8	8.4	7.3	765	28	33	3.9	8.4
3	2.5	185	34	16	12	10	7.3	1390	20	31	3.9	5.9
4	1.6	58	27	15	1200	53	7.3	126	17	35	3.9	5.8
5	1.4	29	22	14	270	29	7.1	45	27	27	3.9	8.4
6	1.3	21	20	13	300	18	6.6	29	365	23	3.9	73
7	1.3	17	18	13	106	14	6.2	22	113	23	4.0	46
8	1.3	14	18	13	49	12	6.2	18	3010	21	4.0	20
9	1.5	13	16	13	38	10	7.2	15	3250	18	4.5	12
10	1.4	11	16	19	58	10	9.4	16	935	16	5.3	8.0
11	1.5	136	580	25	55	10	13	57	477	15	6.8	6.2
12	1.5	725	1220	21	37	19	15	25	389	12	48	369
13	1.4	114	1050	18	27	19	34	16	91	11	19	141
14	2.3	46	229	16	24	16	23	11	50	9.7	8.2	33
15	46	33	93	15	22	12	12	12	36	9.2	5.8	22
16	30	26	63	14	20	11	7.3	19	36	9.8	5.3	17
17	11	22	48	15	19	9.9	5.1	94	335	8.3	5.1	17
18	9.0	20	41	16	19	9.3	4.5	842	71	7.8	5.0	16
19	88	18	35	16	17	9.3	4.4	152	68	14	4.9	21
20	156	15	30	15	17	8.0	18	40	34	13	4.8	30
21	35	13	27	15	15	6.9	15	23	25	9.0	4.7	42
22	18	13	24	14	14	6.2	8.5	17	20	7.3	4.6	59
23	12	11	24	13	12	5.8	5.3	13	18	6.5	5.7	36
24	8.3	266	23	12	12	5.6	3.9	13	18	5.9	11	24
25	6.2	364	20	11	12	5.6	3.3	106	16	5.3	7.9	19
26	5.7	211	18	11	11	5.4	2.8	182	926	5.0	5.8	15
27	4.4	78	18	10	10	5.2	2.7	528	4980	4.7	5.8	10
28	190	111	18	9.7	9.8	5.2	98	679	493	4.5	61	9.1
29	339	64	18	9.6	---	5.2	41	108	86	4.3	40	9.9
30	379	40	18	9.7	---	5.6	13	62	51	4.1	8.0	7.3
31	561	---	18	9.7	---	6.2	---	71	---	4.0	5.8	---
TOTAL	1929.4	2854	3913	446.7	2405.3	359.9	401.0	5593	16030	436.4	314.4	1098.3
MEAN	62.2	95.1	126	14.4	85.9	11.6	13.4	180	534	14.1	10.1	36.6
MAX	561	725	1220	25	1200	53	98	1390	4980	39	61	369
MIN	1.3	11	16	9.6	9.7	5.2	2.7	11	16	4.0	3.9	5.8
CFSM	.44	.67	.89	.10	.61	.08	.10	1.28	3.79	.10	.07	.26
IN.	.51	.75	1.03	.12	.63	.09	.11	1.48	4.23	.12	.08	.29
AC-FT	3830	5660	7760	886	4770	714	795	11090	31800	866	624	2180

CAL YR 1985 TOTAL 30726.20 MEAN 84.2 MAX 2540 MIN .15 CFSM .60 IN. 8.11 AC-FT 60950
WTR YR 1986 TOTAL 35781.4 MEAN 98.0 MAX 4980 MIN 1.3 CFSM .70 IN. 9.44 AC-FT 70970

08066250 TRINITY RIVER NEAR GOODRICH, TX

LOCATION.--Lat 30°34'19", long 94°56'55", Polk-San Jacinto County line, Hydrologic Unit 12030202, on left bank 40 ft downstream from downstream bridge on U.S. Highway 59, 0.2 mi downstream from Long King Creek, 3.0 mi southeast of Goodrich, and at mile 117.3.

DRAINAGE AREA.--16,844 mi².

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 40.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 2-9. Records good except those for estimated daily discharges, which are poor. Flow is completely regulated except during periods of flooding by Long King Creek. Regulation by Livingston Reservoir (station 08066190) 11.9 mi upstream, with capacity of 2,046,000 acre-ft, that began Sept. 29, 1968. There are no diversions between Livingston Reservoir and gaging station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--20 years (water years 1967-86), 7,024 ft³/s, 5,089,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 96,200 ft³/s June 14, 1973 (gage height, 46.36 ft); minimum daily, 191 ft³/s Aug. 6, 1971 (regulation by Livingston Reservoir).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1929, 52.0 ft in May 1942, from information by State Department of Highways and Public Transportation and by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 41,200 ft³/s June 27 at 0100 hours (gage height, 34.02 ft); minimum daily, 692 ft³/s Oct. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1930	16600	32400	1610	1860	5920	1940	18300	23900	15900	1900	1800
2	900	16400	26900	1560	1860	5940	1500	18100	21500	13900	1890	1830
3	800	16400	24700	1550	2050	5900	1230	19100	17500	13300	1880	1800
4	740	16300	23100	1530	6610	5890	1440	18000	14100	12600	1850	1790
5	720	15200	22500	1520	5480	5910	1460	17700	11700	11100	1790	1780
6	700	12200	20600	1520	8590	5660	1460	17500	11900	9670	1780	1930
7	700	7820	17300	1510	12000	4410	1450	16700	12300	9060	1770	2030
8	695	4340	13200	1730	17100	3180	1460	13100	18800	8700	1790	1890
9	695	2410	10400	2220	18200	3050	1450	9400	28900	8610	1860	1850
10	692	2250	6670	2270	20300	3030	1460	7100	29700	8460	1870	1810
11	701	4250	6030	2280	22300	3020	2440	5310	27900	6790	1880	1790
12	697	13500	11900	2280	23600	3040	5340	5110	27800	4630	1890	1840
13	701	13500	14900	2260	26100	3030	6700	5700	27200	4410	1900	2090
14	711	10200	15300	2250	27200	3010	6780	7520	27000	4390	1870	1840
15	755	8910	16300	2240	27200	2980	6760	9020	26800	4370	1870	1780
16	765	8480	18400	2240	27300	2960	6760	11400	26800	4360	1860	1720
17	740	7360	20500	2230	27300	2660	6740	14500	28100	4350	1860	1170
18	731	7300	21000	2230	27300	2100	6750	19800	31100	4580	1850	1060
19	810	7280	22300	2230	26100	2040	6760	22100	35700	5010	1840	983
20	1090	7230	24700	2250	22600	2040	6830	22400	35900	5040	1840	983
21	873	7220	26600	2600	18800	2040	6790	22300	35100	5040	1840	993
22	765	7220	27800	2640	14700	2040	6760	22200	34100	5030	1830	1260
23	750	7220	29300	2640	10300	2050	6740	22100	33800	5010	1840	1800
24	873	8530	29400	2640	7210	2050	6660	22000	33300	4470	1850	1810
25	1660	11600	27700	2640	5790	2040	6700	22500	30300	2540	1840	1800
26	1780	25800	22300	2620	5940	2050	6960	23800	30400	2250	1830	1790
27	2700	32000	16900	2610	5950	2050	7460	25100	38600	2220	1810	1790
28	9200	36000	10700	2400	5950	2040	9250	25700	29800	2210	2110	1790
29	14700	36500	6470	1910	---	2040	16500	24500	25800	2180	2240	1810
30	15300	35600	2920	1860	---	2040	19000	24500	20700	1950	1870	1780
31	17100	---	1720	1860	---	2040	---	24800	---	1910	1810	---
TOTAL	81974	405620	570910	65930	425690	98250	169530	537360	796500	194040	57910	50389
MEAN	2644	13520	18420	2127	15200	3169	5651	17330	26550	6259	1868	1680
MAX	17100	36500	32400	2640	27300	5940	19000	25700	38600	15900	2240	2090
MIN	692	2250	1720	1510	1860	2040	1230	5110	11700	1910	1770	983
AC-FT	162600	804500	1132000	130800	844400	194900	336300	1066000	1580000	384900	114900	99950

CAL YR 1985	TOTAL 2939114	MEAN	8052	MAX	36500	MIN	692	AC-FT	5830000
WTR YR 1986	TOTAL 3454103	MEAN	9463	MAX	38600	MIN	692	AC-FT	6851000

08066300 MENARD CREEK NEAR RYE, TX

LOCATION.--Lat 30°28'52", long 94°46'46", Liberty County, Hydrologic Unit 12030202, on left bank 20 ft downstream from bridge on State Highway 146, 2.3 mi northwest of Rye, and about 6 mi upstream from mouth.

DRAINAGE AREA.--152 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of of gage is 62.32 ft above National Geodetic Vertical Datum of 1929. September 1974 to August 1976, wire-weight gage read twice daily.

REMARKS.--No estimated daily discharges. Records good. No known diversions above station. There was regulation by Bear Foot Lake on Mill Creek located 0.5 mi upstream from station. The dam on this lake washed out on June 26-27, 1986.

AVERAGE DISCHARGE.--20 years (water years 1967-86), 121 ft^3/s (87,660 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,200 ft^3/s June 27, 1986 (gage height, 30.78 ft); minimum daily, 2.6 ft^3/s Nov. 1, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1929 reached a stage of about 39.4 ft, from information by the State Department of Highways and Public Transportation. Flood in September 1961 reached a stage of about 34.0 ft, from information by local resident. Flood of May 1929 may have been equaled or exceeded by other floods during the period 1929-65.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,200 ft^3/s June 27 at 0030 hours (gage height, 30.78 ft); minimum daily, 13 ft^3/s Oct. 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	208	142	87	49	54	32	92	231	554	26	84
2	59	195	183	85	49	52	32	127	261	216	24	58
3	35	126	243	84	49	51	32	205	224	219	24	59
4	25	91	316	80	460	84	35	315	125	188	24	60
5	20	78	173	76	983	69	47	255	103	194	25	45
6	17	62	118	73	2270	82	30	112	132	193	26	41
7	15	54	101	71	1330	70	28	72	143	154	26	76
8	14	46	92	69	982	57	29	56	255	141	25	150
9	14	43	86	68	764	52	28	48	504	137	24	131
10	14	46	82	70	408	49	33	73	514	125	24	80
11	13	125	422	80	274	67	36	97	825	110	27	57
12	13	123	1100	87	237	92	53	99	960	92	35	50
13	14	121	1170	89	183	84	69	131	586	79	43	52
14	38	122	1360	78	151	112	43	73	304	69	45	53
15	77	99	1050	71	138	102	43	76	166	62	37	62
16	51	129	659	67	128	59	39	78	105	56	31	49
17	35	89	326	67	126	50	33	101	282	52	27	44
18	36	62	232	68	122	46	29	215	338	49	25	47
19	51	58	189	67	114	45	27	199	340	50	22	62
20	58	78	152	67	98	42	54	278	213	50	21	54
21	38	45	123	64	84	40	53	234	139	45	20	48
22	77	42	110	61	78	44	66	92	101	42	21	49
23	58	43	104	59	75	45	51	64	78	40	23	107
24	60	168	110	56	75	43	36	51	72	38	33	113
25	42	363	104	48	71	40	30	67	185	36	39	94
26	32	279	97	42	66	37	27	258	2360	35	32	63
27	36	387	93	40	60	37	25	218	7700	34	27	49
28	243	360	92	40	57	37	40	220	3290	32	90	46
29	240	199	92	43	---	35	44	246	2000	31	157	54
30	206	180	92	45	---	35	58	594	1110	30	143	55
31	252	---	90	49	---	34	---	503	---	29	165	---
TOTAL	1928	4021	9303	2051	9481	1746	1182	5249	23646	3182	1311	1992
MEAN	62.2	134	300	66.2	339	56.3	39.4	169	788	103	42.3	66.4
MAX	252	387	1360	89	2270	112	69	594	7700	554	165	150
MIN	13	42	82	40	49	34	25	48	72	29	20	41
AC-FT	3820	7980	18450	4070	18810	3460	2340	10410	46900	6310	2600	3950

CAL YR 1985 TOTAL 47643 MEAN 131 MAX 1600 MIN 11 AC-FT 94500
WTR YR 1986 TOTAL 65092 MEAN 178 MAX 7700 MIN 13 AC-FT 129100

08066300 MENARD CREEK NEAR RYE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: August 1950 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
NOV									
06...	1325	61	76	15.0	18	11	5.0	1.4	7.2
DEC									
16...	1620	586	44	16.5	12	7	3.2	0.9	4.2
JAN									
28...	1550	42	89	11.0	17	7	4.8	1.3	9.9
MAR									
19...	1655	44	79	18.5	18	7	4.9	1.3	9.0
MAY									
07...	0925	75	81	21.0	17	9	4.9	1.2	9.1
JUN									
23...	1525	77	68	26.5	18	8	4.9	1.3	6.8
AUG									
11...	1450	25	136	27.0	23	10	6.8	1.5	16
SEP									
29...	1640	60	99	26.0	20	9	5.8	1.4	11

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV								
06...	0.8	3.1	7	9.7	14	<0.1	14	59
DEC								
16...	0.6	1.2	5	5.5	6.9	<0.1	7.4	32
JAN								
28...	1	0.8	10	4.6	18	<0.1	13	58
MAR								
19...	1	1.1	11	6.0	15	<0.1	12	56
MAY								
07...	1	1.1	8	13	12	<0.1	10	56
JUN								
23...	0.7	1.1	10	12	10	0.2	11	53
AUG								
11...	2	1.0	13	5.8	30	<0.1	13	82
SEP								
29...	1	1.2	11	6.0	20	<0.1	15	67

08066400 BIG CREEK NEAR SHEPHERD, TX

LOCATION.--Lat 30°30'59", long 94°59'06", San Jacinto County, Hydrologic Unit 12030202, on left bank at downstream side of downstream bridge on U.S. Highway 59, 1.5 mi northeast of Shepherd, and 11.6 mi upstream from mouth.

DRAINAGE AREA.--38.8 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 94.90 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Aug. 31 to Sept. 29. Records good except those for estimated daily discharges, which are fair. No known regulation above station.

AVERAGE DISCHARGE.--20 years, 28.5 ft^3/s (9.98 in/yr), 20,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,000 ft^3/s June 13, 1973 (gage height, 25.69 ft); minimum daily, 1.0 ft^3/s Aug. 7, 1967.
Maximum stage since at least 1949, that of June 13, 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1957 reached a stage of 20.3 ft (discharge about 5,500 ft^3/s), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than revised base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 12	0300	1,250	13.75	Feb. 6	0800	597	11.28
Nov. 25	0200	638	11.49	June 9	2300	3,070	17.55
Dec. 11	2300	573	11.15	June 17	1300	776	12.09
Dec. 13	0300	611	11.35	June 20	0100	803	12.20
Feb. 4	0700	1,360	14.08	June 26	2130	*8,090	*21.95

Minimum discharge, 7.7 ft^3/s Aug. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	32	69	23	15	21	14	35	25	53	9.9	13
2	12	29	51	22	15	21	14	62	26	57	9.7	21
3	10	36	34	22	67	21	14	36	18	42	9.5	17
4	9.6	25	30	22	971	22	14	21	14	36	9.3	14
5	9.1	21	29	21	171	20	14	16	33	32	9.1	15
6	8.6	20	26	20	381	20	14	15	45	29	9.3	30
7	8.6	19	25	21	84	19	13	14	65	42	9.7	20
8	8.7	17	25	21	53	19	13	13	233	30	9.5	27
9	8.7	17	24	20	52	19	13	12	1140	27	9.1	20
10	8.7	17	24	28	64	19	14	13	1170	25	9.4	17
11	8.6	219	282	28	44	19	21	15	263	23	13	20
12	8.5	686	387	22	37	25	16	13	261	21	26	17
13	8.6	106	370	20	34	24	15	12	96	20	13	15
14	11	57	77	19	33	20	14	11	63	18	11	15
15	23	51	50	19	31	19	13	20	51	18	10	14
16	20	48	42	18	30	18	12	24	47	25	9.8	14
17	13	38	38	19	30	17	12	19	588	18	9.6	18
18	16	35	35	21	28	17	12	59	227	17	9.3	20
19	33	31	32	20	28	18	12	24	220	16	8.8	16
20	80	30	30	19	27	17	29	16	397	15	8.6	30
21	24	28	29	18	26	16	19	14	76	15	8.4	22
22	20	25	29	17	25	16	14	13	50	14	8.2	19
23	18	24	29	17	24	16	12	12	46	13	8.6	20
24	25	231	27	16	24	16	12	11	38	13	9.3	19
25	17	374	25	17	23	16	12	18	33	12	14	18
26	15	75	24	17	23	16	11	24	1850	12	10	17
27	14	86	25	16	22	16	11	22	1830	12	9.1	16
28	94	84	26	15	21	15	52	33	269	11	24	30
29	113	45	24	16	---	15	22	17	110	11	32	25
30	51	37	24	16	---	14	14	14	71	11	15	20
31	71	---	24	15	---	14	---	19	---	10	13	---
TOTAL	784.7	2543	1966	605	2383	565	472	647	9355	698	365.2	579
MEAN	25.3	84.8	63.4	19.5	85.1	18.2	15.7	20.9	312	22.5	11.8	19.3
MAX	113	686	387	28	971	25	52	62	1850	57	32	30
MIN	8.5	17	24	15	15	14	11	11	14	10	8.2	13
CFSM	.65	2.19	1.63	.50	2.19	.47	.40	.54	8.04	.58	.30	.50
IN.	.75	2.44	1.88	.58	2.28	.54	.45	.62	8.97	.67	.35	.56
AC-FT	1560	5040	3900	1200	4730	1120	936	1280	18560	1380	724	1150

CAL YR 1985 TOTAL 11162.3 MEAN 30.6 MAX 686 MIN 4.9 CFSM .79 IN. 10.70 AC-FT 22140
WTR YR 1986 TOTAL 20962.9 MEAN 57.4 MAX 1850 MIN 8.2 CFSM 1.48 IN. 20.10 AC-FT 41580

08066400 BIG CREEK NEAR SHEPHERD, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: August 1950 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
NOV 06...	1515	20	74	15.0	18	8	4.0	2.0	7.4
DEC 17...	0917	40	62	9.0	15	7	3.5	1.4	6.6
JAN 29...	0940	16	67	11.0	14	5	3.4	1.3	7.3
MAR 18...	1350	18	69	19.0	15	5	3.6	1.4	7.4
MAY 06...	0840	15	68	20.5	15	6	3.8	1.4	7.0
JUN 24...	0910	38	62	24.5	16	6	3.9	1.4	6.3
AUG 11...	1600	11	67	26.0	14	3	3.6	1.3	6.9
SEP 30...	0955	20	59	25.0	14	8	3.6	1.3	6.0

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV 06...	0.8	1.7	10	9.2	12	<0.1	16	58
DEC 17...	0.8	0.8	8	8.8	10	<0.1	15	51
JAN 29...	0.9	0.7	9	6.3	11	<0.1	16	51
MAR 18...	0.9	1.0	10	7.4	12	<0.1	15	54
MAY 06...	0.8	0.9	9	8.4	10	<0.1	14	51
JUN 24...	0.7	1.0	10	6.5	9.9	0.1	14	49
AUG 11...	0.8	1.0	11	6.4	11	<0.1	15	52
SEP 30...	0.7	1.2	6	8.9	10	<0.1	14	49

08066500 TRINITY RIVER AT ROMAYOR, TX
(National stream-quality accounting network)

LOCATION.--Lat 30°25'30", long 94°51'02", Liberty County, Hydrologic Unit 12030202, near right bank on downstream side of bridge on State Highway 787, 1.9 mi south of Romayor, 1.9 mi downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 3.7 mi downstream from Big Creek, and at mile 94.3.

DRAINAGE AREA.--17,186 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1924 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1392: 1932, 1935. WSP 1922: Drainage area. WRD TX-81-1: 1980 (M, m).

GAGE.--Water-stage recorder. Datum of gage is 35.92 ft above National Geodetic Vertical Datum of 1929. Prior to September 1943, nonrecording gage at datum 53.57 ft higher at railroad bridge 1.9 mi upstream. Sept. 15, 1975, to June 16, 1977, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records fair. Since Sept. 28, 1968, flow is regulated by Livingston Reservoir (station 08066190), capacity 1,788,000 acre-ft, 35 mi upstream. There are no large diversions between Livingston Reservoir and this station.

AVERAGE DISCHARGE.--44 years (water years 1925-68) unregulated, 7,155 ft^3/s (5,184,000 acre-ft/yr); 18 years (water years 1969-86) flow regulated by Livingston Reservoir, 7,391 ft^3/s (5,355,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 111,000 ft^3/s May 9, 1942 (gage height, 35.8 ft, from floodmarks), present site and datum; minimum, 102 ft^3/s Aug. 24, 25, 1956.
Maximum stage since at least 1908, that of May 9, 1942.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 54,200 ft^3/s June 27 at 1600 hours (gage height, 25.47 ft); minimum daily, 755 ft^3/s Oct. 7, 8, 12 and 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2820	17700	36500	1990	2070	6510	2090	19500	26500	21200	1900	2030
2	1280	17300	31300	1910	2060	6500	1810	19000	24200	17000	1900	2030
3	926	17200	28100	1880	2060	6500	1570	19900	20200	15900	1890	2010
4	851	17100	25500	1880	7080	6480	1610	19300	16600	15000	1880	2020
5	802	16800	24500	1860	7890	6500	1720	18600	13200	13900	1820	2000
6	767	14400	22900	1820	11800	6380	1690	18400	12900	11900	1810	2050
7	755	10300	20300	1820	13700	5300	1680	17900	13400	10800	1810	2310
8	755	6590	15800	1850	18600	3670	1670	14700	17300	10100	1830	2290
9	761	3360	12600	2350	20100	3280	1660	11000	30100	9920	1900	2280
10	761	2410	9280	2510	21700	3220	1670	8240	34400	9840	1950	2160
11	761	3350	7240	2540	24000	3150	1830	5960	33300	8960	1950	2070
12	755	11400	11400	2510	25100	3280	4450	5190	32800	5890	1960	2010
13	755	14900	16900	2510	27400	3220	6980	5370	31800	4900	2010	2310
14	773	11900	17500	2470	29300	3180	7330	7460	30800	4760	2000	2150
15	875	9820	18300	2470	29300	3160	7330	8970	30300	4690	1950	2020
16	894	9380	19200	2470	29300	3090	7280	11100	30000	4660	1930	1990
17	845	8140	21500	2470	29300	2970	7230	14500	31400	4630	1920	1650
18	802	7810	22200	2470	29400	2350	7190	19200	33500	4680	1890	1420
19	796	7730	22900	2430	28800	2220	7150	23000	37500	5320	1870	1350
20	1040	7660	25300	2400	25300	2180	7330	23600	38500	5420	1860	1320
21	1040	7590	27400	2690	21500	2160	7290	23400	38000	5400	1870	1320
22	932	7560	29100	2820	17500	2150	7200	23300	37900	5390	1870	1380
23	875	7570	30400	2800	12700	2150	7120	23200	37800	5350	1880	1980
24	845	8110	30900	2790	9490	2140	7120	23200	37600	5130	1920	2100
25	1230	10200	30100	2780	6950	2130	6980	23900	35900	3280	1920	2050
26	1640	20200	25200	2750	6650	2130	7160	25200	34300	2350	1890	2010
27	1720	31000	20200	2710	6610	2120	7870	26700	51800	2260	1870	1990
28	6010	36000	13800	2630	6550	2110	8730	28400	45100	2250	2120	1980
29	14300	37800	8900	2200	---	2110	15400	26900	36200	2240	2800	2020
30	15800	37800	4500	2080	---	2100	19700	26600	28000	2070	2240	2020
31	17600	---	2450	2080	---	2090	---	27500	---	1930	2070	---
TOTAL	80766	419080	632170	72940	472210	106530	175840	569190	921300	227120	60480	58320
MEAN	2605	13970	20390	2353	16860	3436	5861	18360	30710	7326	1951	1944
MAX	17600	37800	36500	2820	29400	6510	19700	28400	51800	21200	2800	2310
MIN	755	2410	2450	1820	2060	2090	1570	5190	12900	1930	1810	1320
AC-FT	160200	831200	1254000	144700	936600	211300	348800	1129000	1827000	450500	120000	115700

CAL YR 1985 TOTAL 3108679 MEAN 8517 MAX 37800 MIN 755 AC-FT 6166000
WTR YR 1986 TOTAL 3795946 MEAN 10400 MAX 51800 MIN 755 AC-FT 7529000

08066500 TRINITY RIVER AT ROMAYOR, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1941 to November 1949, February 1950 to September 1951, October 1953 to current year. Chemical and biochemical analyses: February 1968 to current year. Pesticide analyses: February 1968 to July 1981, August 1983 to current year. Sediment records: March 1959 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1945 to November 1949, February 1950 to current year.
WATER TEMPERATURES: February 1950 to September 1951, October 1953 to current year.
SUSPENDED SEDIMENT DISCHARGE: October 1954 to September 1955, October 1968 to September 1971.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (1945-50, 1953-86): Maximum daily, 3,800 microsiemens Oct. 30, 1956; minimum daily, 103 microsiemens Nov. 9, 1946.
WATER TEMPERATURES (1953-58, 1961-86): Maximum daily, 37.0°C July 18, 27, 1953; minimum daily, 3.0°C Jan. 18, 1956, Jan. 15, 16, 1968, Jan. 2, 3, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 421 microsiemens Nov. 9, 10; minimum daily, 162 microsiemens June 27.
WATER TEMPERATURES: Maximum daily, 32.5°C Aug. 2; minimum daily, 8.5°C Jan. 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)
NOV 18...	1445	7790	418	8.10	20.0	10	11	9.8	107	1.6	<8
JAN 06...	1212	1820	288	7.50	10.0	50	38	10.0	88	1.3	K8
FEB 03...	1100	2050	299	7.40	14.0	30	26	10.3	100	5.0	20
11...	1345	24100	291	8.10	10.5	70	43	13.0	115	1.6	52
MAR 31...	1220	2090	314	7.40	18.0	30	9.5	10.0	105	1.8	K12
MAY 12...	1430	5180	336	7.60	25.0	30	5.0	7.5	91	1.6	96
AUG 19...	1108	1880	323	8.30	30.0	20	3.1	8.5	--	2.8	36

DATE	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 18...	80	140	21	47	4.5	31	1	5.6	115	42	33
JAN 06...	K16	96	14	33	3.2	19	0.9	4.2	82	23	22
FEB 03...	130	96	14	33	3.3	19	0.9	5.0	82	29	21
11...	60	96	16	33	3.3	18	0.8	4.5	80	30	17
MAR 31...	K14	100	12	35	3.6	21	0.9	4.6	90	32	24
MAY 12...	120	110	17	38	3.6	21	0.9	4.9	93	33	22
AUG 19...	K12	120	16	41	3.7	19	0.8	4.7	102	27	20

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)
NOV 18...	0.4	6.7	227	240	14	2	0.39	--	0.01	<0.01	0.40
JAN 06...	0.2	9.4	182	160	30	11	0.58	0.60	0.02	0.01	0.60
FEB 03...	0.2	8.7	--	170	10	1	0.69	--	0.01	--	0.70
11...	0.3	8.3	169	160	41	9	0.68	--	0.02	<0.01	0.70
MAR 31...	0.3	7.7	196	180	18	6	--	--	<0.01	<0.01	0.80
MAY 12...	0.3	5.9	203	180	11	--	0.59	--	0.01	<0.01	0.60
AUG 19...	0.3	7.7	200	190	8	2	--	--	<0.01	<0.01	<0.10

08066500 TRINITY RIVER AT ROMAYOR, TX--Continued
(National stream-quality accounting network)

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)
NOV 18...	0.39	0.04	0.03	0.56	0.6	0.18	0.13	0.12	0.37	7.3	23
JAN 06...	0.61	0.11	0.10	0.49	0.6	0.20	0.28	0.15	0.46	8.9	25
FEB 03...	--	0.18	--	1.2	1.4	0.20	--	--	--	9.8	--
11...	0.69	0.06	0.05	0.54	0.6	0.16	0.12	0.10	0.31	8.5	198
MAR 31...	0.77	0.01	0.02	0.49	0.5	0.16	0.13	0.12	0.37	7.4	18
MAY 12...	0.62	0.03	0.02	0.57	0.6	0.17	0.13	0.12	0.37	5.9	19
AUG 19...	<0.10	0.02	0.02	0.58	0.6	0.22	0.08	0.07	0.21	7.6	18

DATE	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
NOV 18...	484	73	50	3	65	<0.5	2	<1	<3	2	15
JAN 06...	123	98	--	--	--	--	--	--	--	--	--
FEB 03...	--	--	--	2	48	--	4	<10	--	11	37
11...	12900	45	20	2	46	<0.5	<1	<1	<3	1	46
MAR 31...	102	97	--	--	--	--	--	--	--	--	--
MAY 12...	266	91	--	--	--	--	--	--	--	--	--
AUG 19...	91	82	<10	6	53	<0.5	<1	<1	<3	2	3

DATE	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
NOV 18...	<1	10	<5	<0.1	10	4	<1	<1	360	<6	16
JAN 06...	--	--	--	--	--	--	--	--	--	--	--
FEB 03...	<1	--	<1	<0.1	--	--	<1	<1	--	--	25
11...	<1	7	3	<0.1	<10	4	<1	<1	260	<6	10
MAR 31...	--	--	--	--	--	--	--	--	--	--	--
MAY 12...	--	--	--	--	--	--	--	--	--	--	--
AUG 19...	<5	14	1	<0.1	<10	2	<1	1	300	<6	4

DATE	AMETRYNE TOTAL	ATRAZINE, TOTAL (UG/L)	CYANAZINE TOTAL (UG/L)	METHOMYL TOTAL (UG/L)	PROMETONE TOTAL (UG/L)	PROMETRYNE TOTAL (UG/L)	PROPAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMAZINE TOTAL (UG/L)	SIMETRYNE TOTAL (UG/L)
NOV 18...	--	--	--	--	--	--	--	--	--	--	--
JAN 06...	--	--	--	--	--	--	--	--	--	--	--
FEB 03...	<0.1	0.1	<0.1	<2.0	<0.1	<0.1	<0.1	<2.0	<2.0	0.1	<0.1
11...	--	--	--	--	--	--	--	--	--	--	--
MAR 31...	--	--	--	--	--	--	--	--	--	--	--
MAY 12...	--	--	--	--	--	--	--	--	--	--	--
AUG 19...	--	--	--	--	--	--	--	--	--	--	--

08066500 TRINITY RIVER AT ROMAYOR, TX--Continued
(National stream-quality accounting network)

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1985 TO SEPTEMBER 1986

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1985	80766	395	221	48300	34	7380	39	8500	120
NOV. 1985	419080	405	226	256000	35	39600	40	45200	120
DEC. 1985	632170	335	190	325000	27	45800	33	56200	110
JAN. 1986	72940	293	168	33200	22	4350	29	5660	99
FEB. 1986	472210	291	167	213000	22	27900	28	36300	98
MAR. 1986	106530	311	178	51200	24	6900	31	8770	100
APR. 1986	175840	327	186	88500	26	12200	32	15200	110
MAY 1986	569190	343	195	299000	28	42400	34	51800	110
JUNE 1986	921300	298	171	426000	23	56800	29	72800	99
JULY 1986	227120	303	174	107000	23	14200	30	18200	100
AUG. 1986	60480	320	183	29900	25	4080	31	5140	100
SEPT 1986	58320	316	181	28500	25	3870	31	4890	100
TOTAL	3795946	**	**	1905000	**	266000	**	329000	**
WTD.AVG.	10400	327	186	**	26	**	32	**	110

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	391	402	397	300	294	317	319	328	347	289	321	313
2	384	412	374	307	294	305	320	327	348	295	322	310
3	388	414	370	302	294	308	322	325	350	297	323	318
4	402	415	372	297	247	309	324	316	350	300	323	315
5	410	418	378	296	195	308	323	332	348	300	323	318
6	415	420	382*	297	175	307	323	335	343	302	323	326
7	414	420	371	298	234	304	322	338	328	301	321	299
8	416	419	376	293	272	306	323	339	322	303	321	299
9	412	421	374	289	275	308	324	341	283	303	323	296
10	411	421	366	285	281	310	324	343	297	303	324	301
11	410	420	340	286	286	310	320	340	311	303	321	314
12	410	385	246	287	290	301	320	340	303	306	321	319
13	405	399	242	290	292	310	323	341	310	307	321	313
14	400	403	259	290	292	307	322	348	315	309	324	297
15	379	406	314	292	291	307	322	347	322	309	319	318
16	377	409	323	291	292	310	324	346	322	309	321	322
17	374	410	328	292	292	311	329	351	320	310	324	326
18	383	414	329	293	296	311	329	346	315	311	323	326
19	387	415	332	292	315	314	326	343	315	311	325	329
20	386	416	333	293	314	315	321	358	314	311	325	327
21	293	418	331	292	309	315	327	357	317	311	326	324
22	312	412	329	293	325	318	327	360	311	312	322	325
23	351	385	326	291	327	320	327	359	308	313	327	315
24	372	350	318	292	321	321	329	353	307	313	323	314
25	382	410	309	292	318	320	329	360	306	314	324	328
26	405	403	301	293	321	320	330	351	302	320	323	321
27	404	405	298	294	323	319	331	355	162	319	327	329
28	404	404	295	295	319	318	328	327	205	320	327	327
29	403	388	293	293	---	318	331	328	256	320	292	327
30	398	400	294	294	---	319	331	345	274	319	309	326
31	396	---	297	294	---	319	---	341	---	320	297	---
MEAN	389	407	329	293	289	312	325	343	307	308	321	317

08066500 TRINITY RIVER AT ROMAYOR, TX--Continued
(National stream-quality accounting network)

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	19.5	18.0	13.0	16.0	13.5	19.0	21.5	26.0	29.0	31.0	29.0
2	24.0	19.5	15.5	14.0	15.0	15.0	19.0	21.5	26.0	29.0	32.5	27.0
3	22.0	20.0	15.5	12.5	16.0	15.0	20.0	22.0	25.0	29.0	31.0	28.0
4	22.0	18.5	16.0	14.0	15.5	13.0	20.0	21.5	25.5	29.0	29.5	28.0
5	22.0	19.0	15.5	11.0	15.0	14.0	20.0	21.5	25.5	29.0	30.0	28.0
6	22.0	18.5	15.0	10.0	14.0	14.5	21.5	22.0	25.5	29.5	29.5	27.5
7	21.0	18.5	16.0	11.5	13.0	14.0	21.0	23.0	26.0	28.0	29.5	27.0
8	22.0	18.5	17.0	9.0	13.0	15.5	21.0	22.5	25.5	29.0	29.5	27.0
9	23.0	21.0	16.0	8.5	12.0	15.5	21.0	22.5	25.0	29.5	30.0	27.5
10	24.0	21.5	18.0	9.0	11.5	17.5	19.0	23.0	25.5	29.0	29.5	27.5
11	25.5	21.0	15.0	9.0	10.5	18.0	18.0	25.0	25.5	29.5	30.0	28.0
12	27.0	20.5	13.0	9.5	10.5	17.0	19.0	24.0	25.0	30.0	28.0	28.0
13	---	21.0	11.5	11.5	10.5	16.0	21.0	24.0	26.0	28.0	28.5	28.5
14	26.0	21.0	10.0	9.5	14.0	16.0	20.0	24.0	28.5	29.0	29.5	28.5
15	25.0	21.0	12.0	10.0	13.0	16.5	18.5	24.0	28.0	29.0	30.0	28.0
16	24.0	20.0	13.0	11.5	14.5	18.0	19.0	24.0	26.5	29.0	31.0	28.0
17	24.0	21.0	13.0	12.0	13.0	18.0	19.5	23.0	26.5	29.0	31.0	28.0
18	24.5	21.0	12.5	11.5	14.0	18.5	20.5	23.5	26.5	29.0	30.0	28.0
19	25.0	21.0	11.0	11.5	16.0	16.0	20.5	22.0	27.5	29.0	30.0	28.0
20	23.5	19.0	12.0	12.0	14.0	15.0	19.0	23.0	28.0	31.5	30.0	27.0
21	24.0	17.5	13.5	13.0	13.0	16.0	20.0	23.5	29.0	29.5	30.0	27.5
22	24.0	19.0	12.5	13.0	13.5	---	19.5	25.0	28.5	30.5	28.0	28.0
23	24.5	19.5	14.0	12.0	15.0	19.0	19.5	24.0	28.0	29.0	29.0	27.0
24	24.5	20.0	12.0	11.5	14.5	16.5	20.5	26.0	27.0	29.0	28.0	27.0
25	25.0	21.0	11.5	13.0	14.0	17.0	21.0	25.0	28.5	29.0	29.0	27.5
26	24.0	20.0	12.0	12.0	14.0	17.0	22.0	28.0	28.0	31.0	29.0	28.0
27	22.0	20.0	12.0	10.0	14.5	17.5	21.0	24.0	26.0	30.0	29.5	29.0
28	24.0	19.0	12.0	10.0	14.0	18.0	21.0	24.0	27.0	32.0	29.0	27.5
29	21.0	18.5	13.0	14.0	---	19.0	22.0	25.0	29.5	30.5	25.5	27.5
30	21.0	19.0	13.0	13.0	---	19.5	21.5	26.0	29.0	30.5	28.0	27.0
31	20.0	---	14.0	15.0	---	19.0	---	25.5	---	31.0	29.0	---
MEAN	23.5	20.0	13.5	11.5	13.5	16.5	20.0	23.5	27.0	29.5	29.5	28.0

08067000 TRINITY RIVER AT LIBERTY, TX

LOCATION.--Lat 30°03'27", long 94°49'05", Liberty County, Hydrologic Unit 12030203, near center of channel at upstream side of upstream bridge on U.S. Highway 90 in Liberty, 345 ft downstream from Texas and New Orleans Railroad Co. bridge, and at mile 40.3.

DRAINAGE AREA.--17,468 mi².

PERIOD OF RECORD.--October 1938 to September 1940 (gage heights, discharge measurements, and some records of daily discharge), October 1940 to current year (high-water records only). Gage-height records collected in this vicinity since 1903 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2.22 ft below National Geodetic Vertical Datum of 1929; unadjusted for land-surface subsidence. Prior to Mar. 13, 1973, nonrecording gage at site 105 ft downstream at same datum.

REMARKS.--Discharge below 10,000 ft³/s are not published. Published discharges are estimated using records for Trinity River near Romayor (station 08066500), intervening area computation, and discharge measurements. Records fair. Considerable regulation of flow by Livingston Reservoir (station 08066190) 88.9 mi upstream. Many diversions above station for municipal supplies, industrial uses, and irrigation. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 114,000 ft³/s May 12, 1942 (gage height, 29.38 ft); minimum not determined (affected by tides); minimum gage height observed, 2.32 ft Nov. 24, 1970.
Maximum stage since at least 1903, that of May 12, 1942.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 8-11, 1922, reached a stage of 28.6 ft, present datum, from observation by the National Weather Service at nonrecording gage on railroad bridge upstream.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 43,500 ft³/s June 29; maximum gage height, 27.84 ft June 29 at 1500 hours; minimum discharge not determined (affected by tides); minimum gage height not determined (affected by tides).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	16900	35200		---		---	18000	27700	36700		
2	---	17000	35000		---		---	19000	27400	30300		
3	---	16800	33800		---		---	19000	25600	24200		
4	---	16600	32000		---		---	19600	22200	20500		
5	---	16600	30300		---		---	19400	18400	18000		
6	---	16000	28400		---		---	19100	15500	15600		
7	---	13800	26200		11700		---	18800	14300	13400		
8	---	10700	22800		13800		---	18000	14600	11800		
9	---	---	18700		17300		---	15400	20500	10700		
10	---	---	15200		19100		---	12400	27500	---		
11	---	---	12300		20700		---	---	30600	---		
12	---	---	11800		22600		---	---	31900	---		
13	---	10800	15700		24200		---	---	32000	---		
14	---	13500	18400		26300		---	---	31800	---		
15	---	12000	18800		28100		---	---	31500	---		
16	---	10400	19500		29200		---	---	31100	---		
17	---	---	20200		29800		---	10700	31200	---		
18	---	---	21600		30200		---	13800	32200	---		
19	---	---	22500		30500		---	18100	33500	---		
20	---	---	23600		30300		---	21000	35300	---		
21	---	---	25200		28400		---	22000	36700	---		
22	---	---	27100		24900		---	22400	37300	---		
23	---	---	28800		20300		---	22700	37700	---		
24	---	---	30300		15800		---	22800	37900	---		
25	---	---	31200		12300		---	23100	37800	---		
26	---	11500	31300		---		---	23700	37700	---		
27	---	20700	28800		---		---	24700	38100	---		
28	---	27100	24000		---		---	26000	41400	---		
29	---	30800	17900		---		---	27000	43500	---		
30	13600	33800	13100		---		13900	27000	41200	---		
31	15600	---	---		---		---	27300	---	---		
TOTAL	---	---	---		---		---	---	924100	---		
MEAN	---	---	---		---		---	---	30800	---		
MAX	---	---	---		---		---	---	43500	---		
MIN	---	---	---		---		---	---	14300	---		
AC-FT	---	---	---		---		---	---	1833000	---		

CAL YR 1985 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1986 TOTAL - MEAN - MAX - MIN - AC-FT -

08067070 CIWA CANAL NEAR DAYTON, TX

LOCATION.--Lat 29°57'40", long 94°48'36", Liberty County, Hydrologic Unit 12030203, at flume on left bank of Coastal Industrial Water Authority canal, 1,000 ft west of the Trinity River, 2 mi east of Farm Road 1409, and 7.4 mi southeast of Dayton.

PERIOD OF RECORD.--April 1981 to current year.

GAGE.--Water-stage recorder. National Geodetic Vertical Datum of gage not determind.

REMARKS.--No estimated daily discharges. Records good. No diversion between pump plant and gage. Water is pumped from Trinity River for industrial use.

AVERAGE DISCHARGE.--5 years, 278 ft³/s, 201,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 469 ft³/s July 17-24, 1986; minimum daily, 52 ft³/s Aug. 18, 1983, and Nov. 10, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 469 ft³/s July 17-24; minimum daily, 52 ft³/s Nov. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	224	253	206	237	250	256	290	185	290	396	436	444
2	232	224	240	240	259	256	303	206	295	412	440	436
3	253	221	233	262	230	212	303	185	286	420	448	428
4	256	221	250	250	194	224	296	203	290	428	453	428
5	259	218	246	259	185	259	296	276	253	436	448	379
6	259	218	243	243	221	276	321	286	234	440	448	412
7	227	250	230	221	253	262	408	262	240	448	416	396
8	230	259	246	224	212	259	381	283	221	457	412	358
9	269	253	209	237	194	259	350	300	200	457	416	332
10	290	52	194	230	200	259	272	296	218	457	416	369
11	286	290	218	243	212	246	246	303	272	444	412	388
12	290	293	227	237	221	246	259	303	339	453	412	392
13	269	266	212	201	215	243	253	283	381	444	412	392
14	221	259	200	230	227	243	237	286	416	436	416	314
15	227	246	227	293	250	243	256	286	392	432	420	293
16	221	253	250	243	230	246	290	293	396	457	420	365
17	237	218	253	230	234	259	296	266	396	469	420	347
18	262	215	253	253	224	259	286	279	396	469	354	377
19	212	276	256	259	237	253	262	286	287	469	347	408
20	95	276	259	230	227	259	262	286	396	469	388	408
21	293	266	269	221	221	253	259	262	416	469	412	408
22	266	256	256	256	230	259	286	266	392	469	404	408
23	266	250	256	262	246	266	293	293	388	469	404	408
24	240	234	234	246	276	276	293	307	404	469	408	412
25	256	237	243	224	253	283	310	325	388	440	416	416
26	237	227	240	221	262	259	307	307	365	424	408	416
27	200	237	240	246	259	246	303	256	365	416	400	416
28	158	230	253	266	259	237	269	237	396	416	404	388
29	272	243	221	234	---	253	237	259	381	428	400	365
30	286	215	224	234	---	266	221	296	400	428	274	365
31	274	---	230	246	---	293	---	310	---	428	314	---
TOTAL	7567	7156	7318	7478	6401	7910	8645	8471	10093	13749	12578	11668
MEAN	244	239	236	241	231	255	288	273	336	444	406	389
MAX	293	293	269	293	276	293	408	325	416	469	453	444
MIN	95	52	194	201	185	212	221	185	200	396	274	293
AC-FT	15010	14190	14520	14830	12860	15690	17150	16800	20020	27270	24950	23140

CAL YR 1985 TOTAL 98309 MEAN 269 MAX 384 MIN 52 AC-FT 195000
WTR YR 1986 TOTAL 109114 MEAN 299 MAX 469 MIN 52 AC-FT 216400

08067500 CEDAR BAYOU NEAR CROSBY, TX

LOCATION.--Lat 29°58'21", long 94°59'08", Liberty County, Hydrologic Unit 12040203, on left bank at downstream side of bridge on U.S. Highway 90 and 6.6 mi northeast of Crosby.

DRAINAGE AREA.--64.9 mi².

PERIOD OF RECORD.--March to August 1946, March 1963 to February 1964, May to August 1971 (discharge measurements only), October 1971 to current year.

Water-quality records.--Chemical, biochemical, and pesticide analyses: May 1971 to September 1979.

GAGE.--Water-stage recorder. Datum of gage is 31.31 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 24 to Nov. 5, Feb. 13 to Mar. 19 and Aug. 6-14. Records fair. Stage discharge relationship affected by seasonal vegetal growth. Low flow is sustained by drainage from irrigated lands. Diversion for irrigation upstream from station. Several observations of water temperature were made during the year. Recording rain gage and telemeter at station.

AVERAGE DISCHARGE.--15 years (water years 1972-86), 78.6 ft³/s, 56,950 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,760 ft³/s June 5, 1981 (gage height, 23.92 ft); maximum gage height, 24.91 ft June 13, 1973; no flow occasionally during pumping season of some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 12	0100	1,480	17.47	June 8	2400	1,510	*19.07
Feb. 4	1300	*1,880	18.91				

Minimum daily discharge, 0.38 ft³/s May 21-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	459	115	26	10	3.2	3.1	4.4	29	159	13	14	16
2	148	80	16	7.0	3.9	3.0	2.6	154	121	14	26	14
3	70	85	12	5.6	3.6	10	2.6	23	55	19	36	14
4	53	40	10	8.4	1300	30	4.6	5.1	83	20	37	6.9
5	43	25	9.1	8.5	772	15	.51	2.8	128	23	40	5.2
6	27	21	8.7	7.6	350	10	1.6	3.6	94	17	35	32
7	19	17	8.7	7.1	132	7.0	3.1	4.6	102	13	20	283
8	25	14	8.7	8.0	56	5.0	.64	3.8	564	7.3	12	119
9	35	13	13	9.3	97	4.0	.57	1.6	1120	6.1	10	255
10	35	11	12	17	329	3.5	1.9	2.4	549	20	8.0	142
11	34	22	402	19	118	3.0	21	5.8	550	19	7.0	142
12	18	472	1270	13	41	10	4.5	13	311	16	6.5	56
13	16	240	950	13	27	6.0	5.6	9.8	149	7.7	6.0	126
14	17	91	391	12	20	4.0	1.7	4.2	84	2.5	5.6	183
15	42	67	177	8.7	15	3.0	3.6	3.1	49	7.7	5.1	415
16	29	111	75	5.8	12	2.5	4.4	4.3	31	10	8.9	127
17	22	63	56	8.5	10	2.0	1.0	5.1	508	4.1	12	54
18	17	33	33	10	8.0	2.5	.44	9.9	452	3.1	16	33
19	183	23	22	8.7	7.0	1.6	2.2	8.3	259	2.5	13	30
20	637	15	23	5.2	6.0	.96	14	1.7	164	2.4	15	66
21	245	11	26	3.8	5.5	.72	4.4	.38	97	1.3	16	160
22	241	9.7	26	4.1	5.0	1.7	9.8	.38	42	3.9	12	71
23	197	9.3	22	3.9	4.5	1.3	2.0	.38	26	4.2	12	44
24	96	108	16	3.9	4.2	1.3	.52	.63	40	6.4	12	234
25	55	914	18	3.6	4.0	1.2	1.1	.50	31	16	8.1	90
26	100	467	15	4.0	3.7	4.3	1.9	1.1	61	51	3.4	32
27	70	319	15	3.6	3.5	3.2	2.4	.95	165	26	7.5	20
28	400	265	13	3.2	3.3	3.1	16	66	91	8.9	15	16
29	1000	104	13	3.9	---	2.8	25	23	42	20	28	12
30	500	44	18	4.0	---	5.0	7.7	5.8	24	35	13	8.7
31	260	---	14	3.7	---	4.6	---	153	---	8.6	9.7	---
TOTAL	5095	3809.0	3719.2	234.1	3344.4	155.38	151.78	547.22	6151	408.7	469.8	2806.8
MEAN	164	127	120	7.55	119	5.01	5.06	17.7	205	13.2	15.2	93.6
MAX	1000	914	1270	19	1300	30	25	154	1120	51	40	415
MIN	16	9.3	8.7	3.2	3.2	.72	.44	.38	24	1.3	3.4	5.2
AC-FT	10110	7560	7380	464	6630	308	301	1090	12200	811	932	5570
(†)	6.58	4.96	2.41	1.20	3.07	1.45	2.59	4.04	6.52	1.00	2.50	6.25

CAL YR 1985 TOTAL 29919.51 MEAN 82.0 MAX 1550 MIN .00 AC-FT 59350 (†) 51.07
WTR YR 1986 TOTAL 26892.38 MEAN 73.7 MAX 1300 MIN .38 AC-FT 53340 (†) 42.57

(†) Rainfall, in inches.

Because the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than continuous stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage of those events. The data collected for special reasons are called measurements at miscellaneous sites.

Streamflow data collected at partial-record stations where water-quality data other than observations of water temperature are not obtained are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations; the second is a table of annual maximum stage and (or) discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low and high flows are given in a third table. Discharge measurements and water-quality data collected at partial-record stations are presented in downstream order in the section of this report entitled "Gaging-station records."

Low-flow partial-record stations

Measurements of streamflow at low-flow partial-record stations that are not published in the gaging-station section are given in the following table. Most of the measurements of low flow were made during periods when streamflow was sustained primarily by ground-water discharge. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will indicate the low-flow potential of the stream. The years listed in the column headed "Period of record" identifies the water years in which measurements were made at the same or at practically the same site.

Discharge measurements made at low-flow partial-record station during water year 1986

Station no.	Station name	Location	Drainage area (mi²)	Period of record	Measurements	
					Date	Discharge (ft³/s)
		Arkansas River basin				
07227700	Chicken Creek near Amarillo, Tex.	Lat 35°28'29", long 101°45'35", Potter County, about 1.5 mi northeast of LX Ranch headquarters and about 18 mi northeast of Amarillo.	(a)	1953-86	1-29-86	0.38
		Red River basin				
07299750	Wanderers Creek at Odell, Tex.	Lat 34°20'50", long 99°25'15", Wilbarger County, at county road bridge and 0.25 mi northwest of Odell Post Office.	199	1949-50, 1952-86	1- 7-86 6-26-86	6.75 7.91
07299890	Lelia Lake Creek below Bell Creek near Hedley, Tex.	Lat 34°56'08", long 100°41'46", Donley County, 150 ft downstream from county road crossing, 1.0 mi downstream from mouth of Bell Creek, and about 5 mi north of Hedley.	74	1964-86	3-20-86 6-23-86	3.06 3.87
07303300	Elm Creek near Shamrock, Tex.	Lat 35°07'21", long 100°17'07", Collingsworth County, at county road bridge, 1,500 ft downstream from Fort Worth and Denver (Burlington) Railway Company bridge, and about 6 mi southwest of Shamrock.	(a)	1947-86	10- 1-85 3-17-86	1.37 1.65
07307700	Roaring Springs near Roaring Springs, Tex.	Lat 33°51'12", long 100°51'53", Motley County, 3.5 mi south of Roaring Springs.	(a)	1937, 1943-86	1- 6-86	.30
		Neches River basin				
08041720	Pine Island Bayou at State Highway 105 near Sour Lake, Tex.	Lat 30°08'08", long 94°16'44", Hardin-Jefferson County line, at bridge on State Highway 105, about 2.0 mi upstream from mouth of Little Pine Island Bayou, and 7.9 mi east of Sour Lake.	-	1979-86	4- 2-86	11.1

a Not applicable.

Crest-stage partial-record stations

The following table contains annual maximum stage and (or) discharge at partial-record stations operated primarily for the purpose of defining the flooding characteristics of the streams. At stations where discharge is given, or is footnoted "to be determined", a stage-discharge relation has been, or will be, defined by discharge measurements obtained by current meter or by indirect procedures. Water-stage recorders are located at these flood-hydrograph stations to facilitate complete hydrograph definition. At stations where only the maximum stage is given (discharge column is dashed), data are generally collected for use in stage-frequency studies of flood-profile definition. Gages at these stations usually consist of a device that will register the peak stage occurring between inspections of the gage. The years used in the column "Period of record" identify the years in which the annual maximum has been determined.

Annual maximum stage and (or) discharge during water year 1986

Station no.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Elevation (feet)	Discharge (ft^3/s)
		Red River basin					
07308200	Pease River near Vernon, Tex.	Lat 34°10'44", long 99°16'40", Wilbarger County, near left bank on downstream side of bridge on U.S. Highway 283, 1.9 mi north of Vernon, and 10 mi upstream from mouth.	3,488	1959-82†, 1984-86	10-11-85	15.0	12,200
		Sabine River basin					
08017210	Long Branch at Greenville, Tex.	Lat 33°07'20", long 96°05'54", Hunt County, on left edge of low-water channel 80 ft upstream from culvert under Moulton St. (Business Route U.S. Highway 69), 0.5 mi upstream from Interstate Highway 30, 0.6 mi downstream from Wesley St. (Business Route U.S. Highway 67), and 1.3 mi southeast of Hunt County Courthouse in Greenville.	5.37	1986	6- 9-86	508.53	-
		Neches River basin					
08033000	Neches River near Diboll, Tex.	Lat 31°07'58", long 94°48'35", Angelina-Polk County line, at downstream bridge on U.S. Highway 59, 700 ft downstream from Texas and New Orleans Railroad Co. bridge, 2.9 mi downstream from Alabama Creek, 3.8 mi south of Diboll, and at mile 203.5.	2,724	1924-25†, 1939-85†, 1986	11-29-85	15.07	12,300
08038000	Attoyac Bayou near Chireno, Tex.	Lat 31°30'15", long 94°18'15", Nacogdoches-San Augustine County line, at bridge on State Highway 21, 2.2 mi upstream from Amaladeros Creek, 2.8 mi east of Chireno, 5.4 mi downstream from Arenoso Creek, and 41 mi upstream from mouth.	503	1924-25†, 1939-54†, 1956-85†, 1986	6-10-86	23.13	19,600
08039100	Ayish Bayou near San Augustine, Tex.	Lat 31°23'46", long 94°09'03", San Augustine County, at bridge on State Highway 103, 3.0 mi upstream from Turkey Creek, and 9.5 mi south of San Augustine.	89.0	1959-85†, 1986	11-26-85	12.96	2,990
		Trinity River basin					
08045850	Clear Fork Trinity River near Weatherford, Tex.	Lat 32°44'25", long 97°39'06", Parker County, near left end of bridge on weigh station exit road associated with Interstate Highway 20, 150 ft downstream from Squaw Creek, 2.8 mi downstream from Lake Weatherford Dam on the Clear Fork Trinity River, 3.8 mi upstream from South Fork Trinity River, and 8.5 mi east of county courthouse in Weatherford.	121	1980-85†, 1986	6- 3-86	12.22	442
08051190	Elm Fork Trinity River above Aubrey, Tex.	Lat 33°19'12", long 97°01'34", Denton County, attached to trees on left bank, 0.1 mi downstream from Bray Branch, 1.4 mi downstream from abandoned county road bridge, 1.6 mi upstream from bridge on Farm Road 428, and 2.6 mi northwest of Aubrey.	-	1981-86	10-21-85	533.40	-
08057120	McKamey Creek at Preston Road, Dallas, Tex.	Lat 32°57'58", long 96°48'11", Dallas County, 0.2 mi upstream from bridge on Preston Road and 0.5 mi upstream from mouth (discontinued).	6.77	1962-79, 1984-86	5-31-86	562.53	2,260
08057418	Fivemile Creek at Kiest Boulevard, Dallas, Tex.	Lat 32°42'19", long 96°51'32", Dallas County, at bridge on Kiest Boulevard, Dallas, and 10.9 mi upstream from mouth (discontinued).	8.08	1974-79, 1984-86	6- 1-86	522.89	4,900
08057440	Whites Branch at Interstate Highway 635, Dallas, Tex.	Lat 32°39'26", long 96°44'25", Dallas County, 200 ft downstream from bridge on Interstate Highway 635 in southeast Dallas and 0.2 mi upstream from mouth (discontinued).	2.53	1974-79, 1984-86	11-27-85	431.40	423
		Cedar Bayou basin					
08067510	Cedar Bayou near Baytown, Tex.	Lat 29°46'12", long 94°54'59", Chambers-Harris County line, at bridge on State Highway 146, 0.2 mi downstream from Cary Bayou, 0.2 mi upstream from Saw Pit Gully, and 4.3 mi northeast of Baytown.	169	1984-86	6- 9-86	2.73	-

---

† Operated as a continuous-record station.

INDEX

Page

Access to WATSTORE data.................................. 18
Accuracy of the records.................................. 13
Acre-foot, definition of.................................. 18
Adenosine triphosphate (ATP), definition of.......... 18
Algae, definition of.................................. 18
  growth potential (AGP), definition of.............. 18
Angelina River near Alto.................................. 222
Arkansas River basin, gaging station records in....... 31-42
  low-flow partial-record station in.................. 459
Arrangement of records.................................. 14
Artificial substrate, definition of.................. 26
Ash mass, definition of.................................. 19
Attoyac Bayou near Chireno.................................. 460
Ayish Bayou near San Augustine.................................. 460

B. A. Steinhagen Lake at Town Bluff.................. 226
Bacteria, definition of.................................. 18
Bardwell Lake near Ennis.................................. 408
Bayou LaNana at Nacogdoches.................................. 224
Beaver Creek near Electra.................................. 92
Bed load, definition of.................................. 25
  discharge, definition of.................................. 25
Bed material, definition of.................................. 19
Bedias Creek near Madisonville..........................427-435
Benbrook Lake near Benbrook.................................. 248
Big Cow Creek near Newton.................................. 203
Big Creek near Shepherd..................................449-450
Big Cypress Creek, near Jefferson.................................. 151
  near Pittsburg..145-148
  near Winnsboro.................................. 141
Big Sandy Creek (Sabine River basin) near Big Sandy...175-183
Big Sandy Creek (Trinity River basin) near Bridgeport. 244
Biochemical oxygen demand (BOD), definition of........ 19
Biomass, definition of.................................. 19
Black Cypress Bayou at Jefferson.................................. 152
Blue-green algae, definition of.................................. 24
Bottom material, definition of.................................. 19
Bridgeport Reservoir above Bridgeport.................. 242
Brushy Creek at Scrogrins.................................. 143
Burke Creek near Yantis.................................. 169

Canadian River, at Logan, NM.................................. 31
  near Amarillo.................................. 33-36
  near Canadian.................................. 39-41
Catfish Creek near Tennessee Colony.................. 415
Cedar Bayou, near Baytown.................................. 460
  near Crosby.................................. 458
  near Kemp.................................. 396
Cells/volume, definition of.................................. 19
Chambers Creek near Rice..................................410-413
Chemical oxygen demand (COD), definition of........... 20
Chicken Creek near Amarillo.................................. 459
Chlorophyll, definition of.................................. 20
CIWA Canal near Dayton.................................. 457
Classification of records.................................. 14
Clear Creek near Sanger..................................293-296
Clear Fork Trinity River, at Fort Worth.................. 250
  near Benbrook.................................. 249
  near Weatherford.................................. 460
Color unit, definition of.................................. 20
Computation, data collection and.................................. 9
Contents, definition of.................................. 20
Continuous-record station, definition of.............. 14
Control, definition of.................................. 20
  structure.................................. 20
Cooperation.................................. 2
Cow Bayou near Mauriceville.................................. 207
Cowleech Fork Sabine River at Greenville.............. 161
Crest-stage partial-record measurements.............. 460
Crest-stage partial-record station, definition of..... 14
Cubic-foot-per-second day, definition of.............. 20
Cubic foot per second (Ft^3/s, ft^3/s), definition of... 20
Cubic foot per second per square mile (CFSM),
    definition of.................................. 20

Data, collection and computation.................................. 9
  presentation.................................. 10-13, 16

Definition of terms.................................. 18-28
Denton Creek, near Grapevine.................................. 336
  near Justin.................................. 326
Diatoms, definition of.................................. 24
Discharge, at partial-record stations and
    miscellaneous sites.................................. 459

Page

Discharge, definition of.................................. 20
Dissolved, definition of.................................. 20
Dissolved-solids concentration, definition of......... 20
Diversity index, definition of.................................. 21
Dixon Creek near Borger.................................. 38
Downstream order numbering.................................. 6
Drainage area, definition of.................................. 11,21
Drainage basin, definition of.................................. 21
Dry mass, definition of.................................. 19
Duck Creek near Garland.................................. 369

Eagle Mountain Reservoir above Fort Worth.............. 246
East Fork Angelina River near Cushing.................. 220
East Fork Little Wichita River near Henrietta.......... 102
East Fork Trinity River, at McKinney..................359-360
  near Crandall..376-377
  near Forney..370-375
  near Lavon.................................. 366
Ellison Creek Reservoir near Lone Star.................. 149
Elm Creek near Shamrock.................................. 459
Elm Fork Trinity River, above Aubrey.................. 460
  near Carrollton.................................. 337
  near Lewisville..322-325
  near Pilot Point..291-292
Estimated daily discharge, identification of.......... 13
Explanation of the records.................................. 8

Fecal coliform bacteria, definition of.................. 19
Fecal streptococcal bacteria, definition of........... 19
Fivemile Creek at Kiest Blvd., Dallas.................. 460
Frazier Creek near Linden.................................. 160

Gage height, definition of.................................. 21
Gaging station, definition of.................................. 21
Gaging-station records.................................. 31-460
Grapevine Lake near Grapevine..........................327-335
Green algae, definition of.................................. 24
Greenbelt Lake near Clarendon.................................. 53
Groesbeck Creek at State Highway 6 near Quanah........ 52

Hardness, definition of.................................. 21
Hickory Creek at Denton..304-307
Hillebrandt Bayou near Lovell Lake.................. 240
Hydrologic bench-mark network.................................. 21
Hydrologic conditions.................................. 3
Hydrologic unit.................................. 21

Identifying estimated daily discharge.................. 13
Illustrations.................................. 4,6
Index.................................. 461
Instantaneous discharge, definition of.................. 20
Introduction.................................. 1

Joe Pool Lake near Duncanville.................................. 282

Kickapoo Creek (Neches River basin) near Brownsboro... 208
Kickapoo Creek (Trinity River basin) near Onalaska.... 436
Kings Creek near Kaufman.................................. 397

Laboratory measurements.................................. 16
Lake Arlington at Arlington..263-268
Lake Arrowhead near Henrietta.................................. 100
Lake Athens near Athens.................................. 209
Lake Bob Sandlin near Mount Pleasant.................. 144
Lake Cypress Springs near Mount Vernon.................. 142
Lake Fork Creek near Quitman..171-173
Lake Fork Reservoir near Quitman.................................. 170
Lake Kemp near Mabelle.................................. 87
Lake Kickapoo near Archer City.................................. 98
Lake Meredith near Sanford.................................. 37
Lake Nacogdoches near Nacogdoches.................................. 223
Lake O' the Pines near Jefferson.................................. 150
Lake Palestine near Frankston.................................. 210
Lake Ray Hubbard near Forney.................................. 368
Lake Tawakoni near Wills Point.................................. 163
Lake Texoma near Denison.................................. 111
Lake Tyler near Whitehouse.................................. 221
Lake Winnsboro near Winnsboro.................................. 174
Lake Worth above Fort Worth.................................. 241
Lake Surveys (Water Quality):
  Arlington, Lake at Arlington..263-268
  Grapevine Lake near Grapevine..327-335
  Lewisville Lake near Lewisville..308-321
  Livingston Reservoir near Goodrich..437-443

Page

Lakes and reservoirs:
  Arlington, Lake, at Arlington.....263-268
  Arrowhead, Lake, near Henrietta..... 100
  Athens, Lake, near Athens..... 209
  B. A. Steinhagen Lake at Town Bluff..... 226
  Bardwell Lake near Ennis..... 408
  Benbrook Lake near Benbrook..... 248
  Bob Sandlin, near Mount Pleasant..... 144
  Bridgeport Reservoir above Bridgeport..... 242
  Cedar Creek Reservoir near Trinidad..... 398
  Cypress Springs, Lake, near Mount Vernon..... 142
  Eagle Mountain Reservoir above Fort Worth..... 246
  Ellison Creek Reservoir near Lone Star..... 149
  Fork Reservoir, Lake, near Quitman..... 170
  Grapevine Lake near Grapevine.....327-335
  Greenbelt Lake near Clarendon..... 53
  Joe Pool Lake near Duncanville.....282-286
  Kemp, Lake, near Mabelle..... 87
  Kickapoo Lake, near Archer City..... 98
  Lavon Lake near Lavon..... 365
  Lewisville Lake near Lewisville.....308-321
  Livingston Reservoir near Goodrich.....437-443
  MacKenzie Reservoir near Silverton..... 46
  Martin Lake near Tatum..... 190
  Meredith, Lake, near Sanford..... 37
  Moss Lake near Gainesville..... 106
  Mountain Creek Lake near Grand Prairie..... 288
  Nacogdoches, Lake, near Nacogdoches..... 223
  Navarro Mills Lake near Dawson..... 399
  O' the Pines, Lake, near Jefferson..... 150
  Palestine, Lake, near Frankston..... 210
  Pat Mayse Lake near Chicota..... 116
  Ray Hubbard, Lake, near Forney..... 368
  Sam Rayburn Reservoir near Jasper..... 225
  Tawakoni, Lake, near Wills Point..... 163
  Texoma, Lake, near Denison..... 111
  Toledo Bend Reservoir near Burkeville..... 193
  Tyler, Lake, near Whitehouse..... 221
  Winnsboro, Lake, near Winnsboro..... 174
  Wright Patman Lake near Texarkana..... 139
  Worth, Lake, above Fort Worth..... 247
Lavon Lake near Lavon..... 365
Lelia Lake Creek below Bell Creek near Hedley..... 459
Lewisville Lake near Lewisville.....308-321
Little Cypress Creek, near Jefferson.....154-159
  near Ore City..... 153
Little Elm Creek near Aubrey.....297-302
Little Wichita River, above Henrietta..... 101
  near Archer City..... 99
Livingston Reservoir, at outflow weir near Goodrich... 444
  near Goodrich.....437-443
Long Branch at Greenville..... 460
Long King Creek at Livingston..... 445
Low-flow partial-record measurements..... 459
Low-flow partial-record stations, definition of..... 14

MacKenzie Reservoir near Silverton..... 46
Martin Creek near Tatum..... 191
Martin Lake near Tatum 190
McKamey Creek at Preston Road, Dallas..... 460
Mean concentration, definition of..... 25
Mean discharge, definition of..... 20
Menard Creek near Rye.....447-448
Metamorphic stage, definition of..... 21
Methylene blue active substance, definition of..... 21
Micrograms per gram, definition of..... 22
Micrograms per liter, definition of..... 22
Milligrams of carbon per area or volume per unit
    time..... 24
Milligrams of oxygen per area or volume per unit
    time..... 24
Milligrams per liter, definition of..... 22
Miscellaneous sampling sites..... 14
Moss Lake near Gainesville..... 106
Mountain Creek, at Grand Prairie..... 289
  at Venus..... 279
  near Duncanville..... 287
Mountain Creek Lake near Grand Prairie..... 288

National Geodetic Vertical Datum (NGVD), definition
    of..... 22
National stream-quality accounting network (NASQAN),
    definition of..... 22
National Trends Network (NTN), definition of..... 22
Natural substrates, definition of..... 26
Navarro Mills Lake near Dawson..... 399
Neches River, at Evadale.....229-232
  at Town Bluff.....227-228
Neches River, near Diboll..... 460
  near Neches.....211-216
  near Rockland.....218-219
Neches River basin, gaging-station records in.....208-238
  low-flow partial-record stations in..... 459

Page

Networks and programs, special..... 7
North Fork Red River near Shamrock..... 59
North Sulphur River near Cooper.....129-131
North Wichita River near Truscott..... 70-75

On-site measurements and sample collection..... 14
Organic mass, definition of..... 19
Organism, definition of..... 22
Organism count/area, definition of..... 22
Organisms count/volume, definition of..... 22
Other records available..... 13

Parameter code, definition of..... 23
Partial-record station, definition of..... 14,23
Partial-record stations, crest-stage..... 460
  low-flow..... 459
Particle size, definition of..... 23
Particle-size classification, definition of..... 23
Pat Mayse Lake near Chicota..... 116
Pease River, near Childress..... 61
  near Vernon..... 460
Pecan Creek near Aubrey..... 303
Percent composition, definition of..... 23
Periphyton, definition of..... 23
Pesticides, definition of..... 23
Phytoplankton, definition of..... 23
Picocurie, definition of..... 23
Pine Island Bayou, at State Highway 105 near
    Sour Lake..... 459
  near Sour Lake.....234-238
Piney Creek near Groveton..... 217
Plankton, definition of..... 23
Polychlorinated biphenyls (PCBs), definition of..... 24
Prairie Creek at U.S. Highway 175, Dallas..... 356
Prairie Dog Town Fork Red River, near Childress..... 48-50
  near Wayside..... 43-45
Primary productivity, definition of..... 24
Programs, special networks and..... 7
Publications of techniques of water-resources
    investigations..... 14,29

Radiochemical program..... 24
Records, accuracy of..... 13
  arrangement of..... 14
  classification of..... 14
  explanation of..... 8
  of stage and water discharge..... 9
  of surface-water quality..... 14
  others available..... 13
Recoverable from bottom material, definition of..... 25
Red River, at Arthur City..... 118
  at Denison Dam near Denison.....112-115
  at Index, AR..... 123
  near Burkburnett..... 62-64
  near De Kalb.....119-122
  near Gainesville.....107-110
  near Quanah..... 51
  near Terral, OK.....103-105
Red River basin, crest-stage partial-record
    stations in..... 460
  gaging-station records in..... 43-160
  low-flow partial-station records in..... 459
Remark codes..... 17
Reservoirs. See lakes and reservoirs.
Return period, definition of..... 25
Revuelto Creek near Logan, NM..... 32
Richland Creek, near Dawson..... 400
  near Richland.....401-404
Roaring Springs near Roaring Springs..... 459
Rowlett Creek near Sachse..... 367
Runoff in inches, definition of..... 25

Sabine River, above Longview..... 185
  at Logansport, LA..... 192
  at Toledo Bend Reservoir near Burkeville.....194-195
  near Beckville.....166-169
  near Bon Wier.....200-201
  near Burkeville.....196-199
  near Gladewater..... 164
  near Mineola.....165-168
  near Ruliff.....203-206
  near Wills Point..... 164
Sabine River basin, gaging stations records in.....161-207
Salt Fork Red River at Mangum, OK..... 58
Salt Fork Red River near Wellington..... 54-57
Sam Rayburn Reservoir near Jasper..... 225
Sanders Creek near Chicota..... 117
Sediment, collection and examination..... 15
  definition of..... 25
Sister Grove Creek near Blue Ridge.....362-363
Sodium adsorption ration (SAR), definition of..... 26
Solute, definition of..... 26
South Fork Sabine River near Quinlan..... 162

Page

- South Side Canal near Dundee.......... 91
- South Sulphur River, near Commerce.......... 124
  - near Cooper.......... 125-128
- South Wichita River, at dam near Guthrie.......... 76-80
  - below dam near Guthrie.......... 81
  - near Benjamin.......... 62-86
- Special networks and programs.......... 7
- Specific conductance, definition of.......... 26
- Stage, records of.......... 9
- Stage-discharge relation, definition of.......... 26
- Station identification numbers.......... 8
- Streamflow, definition of.......... 26
  - yearly summary.......... 3
- Substrate, definition of.......... 26
- Sulphur River, near Talco.......... 132-135
  - near Texarkana.......... 140
- Surface area, definition of.......... 26
- Surficial bed material, definition of.......... 26
- Suspended (as used in tables of chemical analyses), definition of.......... 26
- Suspended, recoverable, definition of.......... 27
- Suspended, total, definition of.......... 27
- Suspended sediment, definition of.......... 25
- Suspended-sediment concentration, definition of.......... 25
- Suspended-sediment discharge, definition of.......... 25
- Suspended-sediment load, definition of.......... 25
- Sweetwater Creek near Kelton.......... 60

- Taxonomy, definition of.......... 27
- Taylor Bayou near LaBelle.......... 239
- Taylor Bayou basin, gaging-station records in.......... 239-240
- Tehuacana Creek near Streetman.......... 414
- Temperature, collection and examination.......... 15
- Terms, definition of.......... 18-28
- Thermograph, definition of.......... 27
- Timber Creek near Collinsville.......... 290
- Time-weighted average, definition of.......... 27
- Toledo Bend Reservoir near Burkeville.......... 193
- Tons per acre-foot, definition of.......... 27
- Tons per day, definition of.......... 28
- Total coliform bacteria, definition of.......... 18
- Total (in tables of chemical analyses), definition of. 28
- Total discharge, definition of.......... 28
- Total organism count, definition of.......... 22
- Total, recoverable, definition of.......... 28
- Total sediment discharge, definition of.......... 25
- Total sediment load, definition of.......... 26
- Trigg Branch at Dallas-Fort Worth Airport near Euless. 278
- Trinity River, at Cedar Crest Blvd., Dallas.......... 340-347
  - at Dallas.......... 339

Page

- Trinity River, at Liberty.......... 456
  - at Romayor.......... 451-455
  - at Trinidad.......... 367-395
  - below Dallas.......... 349-357
  - near Crockett.......... 416-426
  - near Goodrich.......... 446
  - near Oakwood.......... 416
  - near Rosser.......... 378-386
- Trinity River basin, crest-stage partial-record stations in.......... 460
  - gaging-station records in.......... 241-455
- Tritium network.......... 28
- Truscott Brine Lake near Truscott.......... 65-69
- Tule Creek near Silverton.......... 47
- Turtle Creek at Dallas.......... 338

- Upper Keechi Creek near Oakwood.......... 417

- Village Creek, at Kennedale.......... 261
  - near Kountze.......... 233

- Walnut Creek near Mansfield.......... 260-281
- Wanderers Creek at Odell.......... 459
- Water discharge, records of.......... 9
- Water quality.......... 5
- Water temperature.......... 15
- Water year, definition of.......... 26
- WATSTORE data, access to.......... 18
- Waxahachie Creek near Bardwell.......... 409
- WDR, definition of.......... 28
- Weighted average, definition of.......... 26
- West Fork Trinity River, at Beach Street, Fort Worth.. 252-260
  - at Bridgeport.......... 243
  - at Fort Worth.......... 251
  - at Grand Prairie.......... 269-277
  - near Boyd.......... 245
  - near Jacksboro.......... 241
- Wet mass, definition of.......... 19
- White Oak Creek near Talco.......... 136-138
- White Rock Creek at Greenville Ave., Dallas.......... 348
- Whites Branch at I.H. 635, Dallas.......... 460
- Wichita River, at Wichita Falls.......... 93-96
  - near Charlie.......... 97
  - near Mabelle.......... 86-90
- Wilson Creek at McKinney.......... 364
- Wolf Creek at Lipscomb.......... 42
- Wright Patman Lake near Texarkana.......... 139
- WSP, definition of.......... 28

- Zooplankton, definition of.......... 24

*U.S. GPO: 1987-763-229

October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF THE INTERIOR
INT 413

U.S. DEPARTMENT OF THE INTERIOR
Geological Survey, 649 Federal Building
300 East 8th Street
Austin, TX 78701

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

SPECIAL 4TH CLASS BOOK RATE

465